QCTO curriculum outline and link to the NOCC –Rigger

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
Knowledge Modules			
651501000-KM-01, The world of the rigger, NQF Level 3, Credits 8	**KM-01-KT01: Introduction to rigger occupation (9%)**	KT0101 World of work for rigger	**A1**
		KT0102 Career opportunities of a rigger	**J1**
	KM-01-KT02 Regulatory framework for riggers (38%)	KT0201 Occupational Health and safety Act (Act 85 of 1993), including Driven Machinery Regulations, last amended 24 June 2015	**A2**
		KT0202 Mine, Health and Safety Act (Act No. 29 of 1996) and Regulations	
		KT0203 National and international environmental standards	
		KT0204 SANS Codes 10085-1: 2004	
		KT0205 Construction Regulations	
		KT0206 ISO 22846-1 and ISO 22846-2	
	KM-01-KT03: Application of occupational health and safety (38%)	KT0301 Safety precautions and safe practices for working in the rigger environment	**A3**
		KT0302 Personal protective equipment	
		KT0303 Safety symbols and colour coding (prohibitive, mandatory, information)	
		KT0304 Fundamentals of isolating and locking out equipment and processes	
		KT0305 Fundamentals of securing worksites	
		KT0306 Hazard identification and risk assessment (HIRA)	
		KT0307 Environmental protection and pollution concepts	
		KT0308 Incident reporting	
		KT0309 Evacuation procedures	
		KT0311 Worksite safety procedures	
		KT0312 Roles and responsibilities of a health and safety representative	
		KT0313 Emergency situation in work situations (including electric shock)	

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	KM-01-KT04: Safety training for work area (15%)	KT0401 Safety issues at work (safety equipment and procedures; potential/actual hazards in work area; demarcated areas, emergency stops, exits, first aid stations; personal protective equipment; housekeeping duties and methods)	**A3**
		KT0402 Reports on safety issues	
		KT0403 Unsafe or potentially unsafe conditions, incidents or acts that may occ	
651501000-KM-02, Shielded metal arc welding and gas-cutting, NQF Level 2, Credits 3	**KM-02-KT01: Shielded metal arc welding (50%)**	KT0101 Shielded metal arc welding equipment (polarity, consumables [electrode, electrode holder, welding helmet], welding shield [face shield and safety screens], cables, welding machine, earth clamp)	**D1**
		KT0102 Handling, transport, use and storage of welding equipment	
		KT0103 Regulations pertaining to welding	
		KT0104 Welding techniques (weld fillet and grooves in different positions)	
		KT0105 Material selection (coding where applicable)	
		KT0106 Welding defects (porosity, wormholes, lack of fusion, poor penetration, gas pours)	
		KT0107 Basic electricity with regards to shielded metal welding (voltage, AC and DC current and frequency)	
		KT0108 Effects of heat	
		KT0109 Health and safety risks, protective equipment and measures	
	KM-02-KT02: Oxy-fuel and propane gas cutting (50%)	KT0201 Gas cutting equipment and consumables (acetylene cutting torch, pressure regulators, attachments, rubber hoses, flashback arrestors, nozzles and nozzle cleaners, cylinder valve spindle key)	**D2**
		KT0202 Handling, transport, use and storage of oxy-acetylene equipment	
		KT0203 Gas cutting techniques and principles	
		KT0204 Ignition process	
		KT0205 Types of flames (neutral, carburizing flame, oxidising)	
		KT0206 Material selection	
		KT0207 Cutting defects	
		KT0208 Flash-backs	
		KT0209 Health and safety risks and protective equipment and measures	

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651501000-KM-03, Tools and equipment, NQF Level 2, Credits 7	**KM-03-KT01: Engineering hand tools (22%)**	KT0101 Types of tools (hand files, spanners, socket sets, specialised sockets, impact sockets, wrenches [including torque wrench], Allen keys, screwdrivers, Philips screw driver, pliers, clamps, tin snips, hacksaws, chisels, metal shears, hammers, files, dollies, spoons, pullers, mallets, bench stakes, files, scrapers, hole punches, anvils and riveters, punches, saws, threading tools, crimping tools, ring and flat spanners, shifting spanner, water pump pliers, pinch bars, 300mm steel rules, clamps, side cutters, diagonal cutters shifting spanner, vice grip, spikes)	**B1**
		KT0102 Defects of engineering hand tools	
		KT0103 Hazards associated with engineering hand tools	
		KT0104 Selection and use of tools and related personal protective equipment (PPE)	
		KT0105 Maintenance and storage of engineering hand tools	
		KT0106 Environmental requirements	
	KM-03-KT02: Engineering power, hydraulic and pneumatic tools (22%)	KT0201 Types of tools (drills [including pedestal drilling machines], grinders [including pedestal grinders], sanders, steel-wire brushes, buffing machines, wrenches (including impact type), jacks, saws [including power and band saws], abrasive and hydraulic cut-off machines)	**B1**
		KT0202 Defects of power, hydraulic and pneumatic tools	
		KT0203 Hazards associated with engineering power, hydraulic and pneumatic tools	
		KT0204 Selection and use of tools and related PPE	
		KT0205 Maintenance and storage of engineering power, hydraulic and pneumatic tools	
		KT0206 Environmental requirements	
	KM-03-KT03: Measuring tools (22%)	KT0301 Types of measuring tools (verniers, mechanical steel rulers, inside, outside and depth micrometers, tape measure, telescopic gauges, and a feeler gauge, outside and inside callipers, sheave gauge, rope diameter tape)	**B3**
		KT0302 Defects of measuring tools	
		KT0303 Hazards associated with measuring tools	
		KT0304 Calibration and tolerances	
		KT0305 Selection and use of tools and related PPE	
		KT0306 Maintenance and storage of measuring tools	
		KT0307 Environmental requirements	

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	KM-03-KT04: Manufacturing basic rigging hand tools (17%)	KT0401 Basic rigging tools to be manufactured (tee-needle, marlin-spike, serving mallet, fid)	**B4**
		KT0402 Manufacturing processes (annealing and case-hardening, methods and techniques) for manufacturing the rigging tools	
		KT0403 Tools required for manufacturing rigging tools	
		KT0404 Types of materials required	
		KT0405 Tools and equipment required for the tasks	
		KT0406 Drawings, specifications and instructions	
	KM-03-KT05: Producing simple components (17%)	KT0501 Drawings and job instructions and shutting down)	**B4**
		KT0502 Machine preparation and operation (components, accessories, cutting speeds, tooling, adjustments during drilling process, starting	
		KT0503 Drilling process and adjustments during drilling process	
		KT0504 Tools (pedestal drill, portable drill, pedestal grinder, portable grinder, hand saw, abrasive cut-off machine)	
		KT0505 Measuring, marking off, sawing, drilling, cutting, tapping and filing	
651501000-KM-04 Engineering materials, drawings and sketches, NQF Level 2, Credits 5	**KM-04-KT01: Engineering materials (50%)**	KT0101 Types of engineering materials (include ferrous and non-ferrous metals (include grades and composition), alloys)	**C1**
		KT0102 Physical properties of engineering materials (yield stress, proof stress, ultimate tensile stress, % elongation, impact strength, toughness, fatigue strength, wear resistance, heat resistance, hardness, tactile/flexibility bend)	
		KT0103 Common properties (machinability, castability, weldability, forgeability and corrosion resistance	
		KT0104 Methods of processing engineering materials include machining, casting, rolling, forging, weldability, extrusion, drawing and spinning	
		KT0105 Methods of manufacturing include hot working, cold working and thermal processes	
		KT0106 Common metal tests (include tensile, hardness, shear, impact, spark and bend tests)	
		KT0107 Heat treatment processes (include homogenising, annealing, normalising, stress relieving, tempering and case hardening)	

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		KT0108 Changes in metal properties (include a variety of changes in state, e.g. strength, hardness, ductility, magnetism, dimensions and colour)	
		KT0109 Environmental effects include oxidation (corrosion), acid attack, heat action	
		KT0110 Types of profiles (round-bar, flat-bar, square tubing, etc.)	
	KM-04-KT02: Engineering drawings and sketches (50%)	KT0201 Engineering drawings and sketches (drawings are limited to single components which may include components, e.g. structures)	**C2**
		KT0202 Geometry and scales	
		KT0203 Isometric, orthographic and oblique views	
		KT0204 International drawing conventions and standards (title block, material list and annotation)	
		KT0205 Aspects pertaining to angles (includes concepts, types of angles, measuring/ calculating angles and angle relationships)	
		KT0206 Aspects pertaining to geometric shapes (includes types of geometric shapes, their definitions, properties, calculation of perimeter, area and volume)	
		KT0207 Other concepts related to engineering drawings (metric and imperial systems, symbols/abbreviations, types of lines, drawing definitions [fit, limit and deviation], sectional views, types of dimensions and dimensioning, details and their conventional representation, tolerances)	
		KT0208 Interpretation of engineering drawings (interpretation limited to first and third angle orthographic projection, isometric and oblique views, including hidden detail and single plane sectional views)	
651501000-KM-05, Scaffolding, working at heights, fall protection systems and ladders, NQF Level 2, Credits 16,	**KM-05-KT01: Fall protection systems (40%)**	KT0101 Fall protection plan awareness and implementation	**E4**
		KT0102 Main possible hazards associated with work at height and worksites	
		KT0103 Fall protection equipment (types including single/double devices, systems and alternative methods of access, PPE)	
		KT0104 Installation of life lines (including temporary and permanent systems)	
		KT0105 Work areas and types of access required per area including selecting anchor points to connect to	
		KT0106 Fall arrest rescue systems	
		KT0107 Inspection and assembly of fall arrest equipment and systems	
		KT0108 Basic fall arrest rescue	

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		KT0109 Managing safety of people working at heights	
	KM-05-KT02: Scaffolding (e.g. 6m) (40%)	KT0201 Organisational planning (sequencing tasks, identification of tools and equipment, resource requirements, transportation, storage etc.)	**E1**
		KT0202 Safety standards SANS 10085-1 (including PPE)	
		KT0203 Interpretation of scaffold design drawings (including identification of type and deviations, calculation of material and components, platform levels and identifying difference in special versus non-special)	
		KT0204 Tools and equipment (including carrying and handling)	
		KT0205 Inspection (including inspection of components and ground conditions)	
		KT0206 Types of scaffold and their components (tubular systems [6m] [ring systems and kwik-stage], interlocking frame [6m], walkthrough frames, tubing and fitting scaffolding, trestles; and their limitations)	
		KT0207 Identification and factors selection of type of scaffolding (type of foundation/base; selection of correct type of scaffold on the basis of height, duration of work, weather conditions, weight of workers, weight and type of material and equipment; number of platforms required and location of work)	
		KT0208 Sub-standard conditions and hazards (ground conditions, overhead wires and cables, obstructions, change in surface elevation, tie-in problems, weather conditions, environment surrounding scaffold, i.e. moving machinery, trucks, etc.)	
		KT0209 Erection of scaffolding (setting foundations, basing/levelling, bracing, access ladders, platforms [working/non-working], guardrails and signage)	
		KT0210 Dismantling of scaffolding (pre-inspection, stability of structure during dismantling and sequence of dismantling)	
		KT0211 Handover procedures	
		KT0212 Continuation of inspections	
		KT0213 Housekeeping (including cleaning of scaffolding components, signage and barricading, stacking and storing and quarantining of un-safe equipment, as well as housekeeping on the working and non-working platforms of the scaffolding when in use)	

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		KT0214 Legal requirements for the use and implementation of load-bearing scaffolding, temporary suspended platforms, mobile elevated work platforms (MEWPs) and support scaffolding (falsework)	
	KM-05-KT03: Ladders (20%)	KT0301 Types of ladders (step ladders, extension ladders and single ladders (aluminium alloy, wood, steel, composite [fibreglass]) including different lengths; classification [i.e. portable and fixed and based on weight capacity]; selection)	**E5**
		KT0302 Rope ladders (hanging ladders, wire-rope ladders; wire-rope ladder with pipe rungs; wire- rope ladder with wire-rope rungs; fibre-rope ladders; fibre-rope ladder with fibre-rope rungs; fibre-rope ladder with wood rungs; standoff ladders)	
		KT0303 Selection of ladder (take into consideration the type of work (i.e. electrical, etc.), the height of work area that needs to be accessed and ladder weight capacity)	
		KT0304 Safety rules and requirements (including when erecting, using and dismantling)	
		KT0305 Inspection procedures for ladders	
		KT0306 Procedures to carry ladders	
		KT0307 Erecting, moving and dismantling ladders (against a wall, against a roof or scaffold)	
651501000-KM-06, Supervision of scaffolding operations up to 6m, NQF Level 3, Credits 11	**KM-06-KT01: Basic action planning for scaffolding operations (70%)**	KT0101 Written safe work procedures	**E6**
		KT0102 Resource selection for scaffold operations based on design requirements	
		KT0103 Planned task observations (PTOs) for erecting and dismantling procedures	
		KT0104 Site risk assessment (includes site risk assessment plan, hazards, work permits, weather, PPE, etc.)	
		KT0105 Site establishment including accessibility, lay-down areas, storage, signage	
		KT0106 Basic action planning procedure	
	KM-06-KT02: Supervision of access scaffolding up to 6m (30%)	KT0201 Roles and responsibilities of the Scaffold Supervisor	**E2**
		KT0202 Types of access scaffolding, including tubular systems [ring systems and kwik-stage], interlocking frame, walkthrough frames, tubing and fitting, etc.	
		KT0203 Classification for access scaffolding platforms, including multi-level platforms	
		KT0204 Stability requirements	

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		KT0205 Planning resources for erecting and modifying access scaffolding (prioritisation of activities, access scaffold material quantities, transportation, materials and crews)	
		KT0206 Risks and hazards are controlled and monitored for the duration of the job	
		KT0207 Erection and modification supervision (equipment supplied in sequence, setting out of access scaffolding positions, monitoring of erection, and modification sequence, drawings and/or requirements, relevant specifications, legislation and standards, removal of excess equipment)	
		KT0208 Supervision of dismantling and site clearance procedures (site risks assessments, action plans compilation, prioritisation of activities, transportation, materials and crews; lay down/staging areas for materials; dismantling sequence for access scaffolding; site procedures for the clearance of materials, equipment and crews)	
		KT0209 Handover procedures	
		KT0210 Methods of dealing with falling items like tools etc. (including safety nets)	
651501000-KM-07, Access scaffolding inspection, NQF Level 4, Credits 10	**KM-07-KT01: Access scaffold inspecting (100%)**	KT0101 Roles and responsibilities of the Scaffold Inspector	**E3**
		KT0102 Different types of access scaffolding, applications, limitations, design and Compliance	
		KT0103 Categories (e.g. birdcage, butress, independent) and classification of scaffolding (load-bearing, non-load bearing, lightweight, heavy-duty, medium)	
		KT0104 Working platforms (either to work on, to store equipment on, to rest on, or to build from Legal requirements for building a scaffold - there must be a rest platform every 8 meters for a person. Non-working platforms (temporary platforms that are erected (no less than 3 board thick), generally, with no hand rail or protection and it's used as a place for the workers to have stable footing to be able to continue building the scaffold)	
		KT0105 Classification and categories for access scaffolding platforms	
		KT0106 Stability requirements and green tag)	
		KT0107 Access scaffold documentation and signage (includes Access Scaffolding Inspection Registers, Handover Certificates	
		KT0108 Drawings, design and other specifications	
651501000-KM-08, Ropes,	**KM-08-KT01: Fibre ropes (34%)**	KT0101 Types of ropes (including range of natural and synthetic fibres, polypropylene, nylon, cotton, polyester) (vegetable fibres {manila, sisal, hemp, coir and cotton, jute); twines (spun yarn, marline)	**F1**

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knots, bends and hitches, lashings, attachments and splices, NQF Level 2, Credits 10		KT0102 Selection of ropes (strength, working loads and safety factor [WLL calculations]; charts and/or formulae; scope of work; load capacity, pre-operational checks; application	
		KT0103 Elongation (elastic properties of the fibre type; elastic elongation (EE); elastic hysteresis; permanent extension (PE) while working; permanent extension (PE) relaxed; creep; constructional elongation; splice setting)	
		KT0104 Diameter and linear density (weight)	
		KT0105 Dynamic loading (dynamic nature of the environment; shock loading and applications where shock loading occurs)	
		KT0106 Firmness, construction and abrasion (3-strand twisted construction)	
		KT0107 Components of stretch on a loaded rope	
		KT0108 Comparison of fibre characteristics (tenacity, elongation, coefficient of friction, critical temperature, specific gravity, creep)	
		KT0109 Testing methods	
		KT0110 Strength degradation from ultraviolet light, storage (coiling, flaking, bagging), chemical exposure, removing rope from reel or coil	
		KT0111 Rope inspection, certification and retirement (visual inspection, abrasion, glossy or glazed areas, discolouration, inconsistent diameter, inconsistent texture, residual strength; inspection checklist	

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		KT0112 Permanent finishes to fibre rope ends (soft eye, hawser eye, thimble eye, becket, bollard eye)	
		KT0113 Inspection and certification of fibre ropes (coiling and uncoiling, measuring (diameter, circumference and the lay length)	
		KT0114 Splicing (includes methods relevant to different industries (grommet-, long-, short, eye-,back-splices)	
		KT0115 Joining (includes knots, bends and hitches of all types relevant to different industries)	
		KT0116 Maintenance, care and storage of fibre ropes	
	KM-08-KT02: Knots, bends, hitches, lashings, splices and attachments (34%)	KT0201 Types of knots (reef, single figure-eight, double figure-eight, double figure-eight on a bight, figure-nine, figure-nine on a bight, overhead, catspaw, sheepshank, bowline [double bowline; running bowline; bowline on a bight; triple bowline, rescue bowline], mousing of a hook, klemheist, overhand, stopper, anchor knots, tape slings, alpine butterfly, reef) KT0202 Types of hitches (black wall, double black, timber and half, timber and two half, clove, rolling, slippery, scaffold, marline spike, basket, noose and halter, triple sliding, inverted basket, toggle, choler or anchor, stone-dog, double anchor)	**F2**
		KT0203 Types of bends (carrick, double carrick, hawser, sheet, fisherman's; single sheet, double sheet)	
		KT0204 Knots used for intermediate anchors	
		T0205 Terms associated with knots, bends and hitches (loop {underhand, overhand}, bight, eye, reeve, whipping methods [Common, West Country, American, Sailmaker's]; running end, standing part, turn)	
		KT0206 Types of lashings (square, shears, block)	

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		KT0207 Types of splices (short, eye or side; long; crown or back; wore-rope splices {short, long, eye or side; round-strand, lang lay, attachments used with eye splice)	
		KT0208 Characteristics of knots, bends and hitches (be tied quickly, hold fast, must not slip, used for the correct purpose) KT0209 Methods of tying knots, bends, hitches and lashing	
	KM-08-KT03: Steel wire rope specimen for destructive testing purposes (17%)	KT0301 Factors critical to making up a steel wire rope specimen for destructive testing purposes	**G4**
		KT0302 Risks and hazards while making-up a steel wire rope specimen	
		KT0303 Preparations to make steel wire rope specimen (permission, PPE, tools, materials and equipment)	
		KT0304 Procedures to make-up a steel wire rope specimen	
		KT0305 Post-production procedures	
		KT0306 Interpretation of results from destructive testing (elongation, elasticity) KT0307 Approved testing station	
	KM-08-KT04: Care and maintenance of steel wire ropes (15%)	KT0401 Lubricating methods (compressed air; bath; manual; funnel)	**G3**
		KT0402 Factors critical to lubricating steel wire ropes	
		KT0403 Critical hazards (lubrication products in the main consist of mixtures of oils, waxes, bitumens, resins, gelling agents and fillers with minor concentrations of corrosion inhibitors, oxidation stabilizers and tackiness additives. Most of them are solid at ambient temperatures)	

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		KT0404 Preparation to lubricate a steel wire rope (permission to enter the workplace, PPE; tools, materials and equipment; inspection of workplace)	
		KT0405 Post-lubricating activities	
		KT0406 Storage	
		KT0407 Saftey requirements	
651501000-KM-09, Steel wire ropes, NQF Level 3, Credits 8	**KM-09-KT01: Steel wire ropes (70%)**	KT0101 Types of steel ropes (marine ropes [oil rigs and shipping]; fishing ropes [trawling and mooring]; mining ropes [winches and winder hoist]; dragline ropes and shovel ropes; crane ropes [mobile and overhead; cable ropes and ski ropes; forestry and skyline ropes)	**G1**
		KT0102 Construction types of steel wire ropes (denotes the arrangement of the strands and wires within a rope, e.g. 6x36WS, 6x19S, 18x7, 34xK7 (includes regular lay ropes [6 X 3 6F], different lays (non-spin, galvanised and steel wire ropes, flat-wire, different lubrication types and methods for different purposes)	
		KT0103 Types of lays of steel wire ropes (denotes distance parallel to the axis of the rope in which the outer strands make one complete turn (or helix) about the axis of the rope e.g. right hand lay, left hand lay, right hand langs lay, left hand langs lay and right alternate lay)	
		KT0104 Types of cores (central element, usually of fibre or steel, of a single layer stranded rope, around which are laid helically the outer strands of a stranded rope or the outer unit ropes of a cable-laid rope. e.g. independent wire rope cores, wire-strand core, fibre core, polypropelene)	
		KT0105 Elongation (initial constructional extension, elastic extension, permanent extension, thermal expansion, extension due to wear)	
		KT0106 Characteristics of steel wire ropes (high tensile strength, fatique strength, impact toughness, wear resistance, withstand alternating loads	
		KT0107 Diameter and linear density (weight)	

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		KT0108 Dynamic loading (dynamic nature of the environment; shock loading and applications where shock loading occurs, effects of shock loading on steel wire ropes)	
		KT0109 Components of stretch on a loaded steel wire rope	
		KT0110 Testing methods	
		KT0111 Steel wire rope installation considerations (installing line to winch drum etc.; winding onto winch {level, cross etc.}; use of slings with winch lines; end-for-ending etc) and steel wire rope replacement considerations	
		KT0112 Bending radius calculation, sheave wheel to rope diameter D/d	**H3**
		KT0113 Steel wire rope inspection (SANS 4309), certification and retirement (visual inspection, abrasion, glossy or glazed areas, discolouration, inconsistent diameter, inconsistent texture, residual strength; inspection checklist KT0114 Measuring of ropes (lay length, diameter and circumference) KT0115 Maintenance of steel ropes (lubrication of the rope, frequent moving of the rope cross-over position, sheave groove cutting to maintain correct opening and to prevent rope “nipping”) KT0116 Problems with steel wire ropes (mechanical damage, broken wires from crushing or abrasion, opening or looping strands, core protrusion or broken core, excessive wear and abrasion, external and internal corrosion resulting in loss of metallic area, incorrect fleet angles resulting in rope “stacking”) KT0117 Procedures to serve steel wire ropes (size of serving wire, length of serving, serving tools, ordinary of buried wire serving, soldered of wiped serving) KT0118 Procedures to worm, parcel and serve steel wire ropes at terminations KT0119 Splice techniques (Liverpool, Admiralty, long and short splice, endless rope splice [grommet])	**H1** **G2**
	KM-09-KT02: End fittings (30%)	KT0201 Helical terminations (catenary terminations, contact termination, in-span insulation, contact fixed termination, contact wire termination)	**G5**

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		KT0202 Swage sockets (including sleeves, sockets, shank hooks, threaded studs, button sockets, etc.)	
		KT0203 Spelter sockets (including mooring sockets, resin wire lock sockets, use of zinc in terminating spelter)	
		KT0204 Rope clips (forged, u-bolt, fist grip, forged rope wire clips, wire rope thimbles, standard wire rope thimbles, extra heavy wire rope thimble, solid thimble, stainless steel rope wire clips, etc.	
		KT0205 Wedge sockets	
		KT0206 Procedures to connect end fittings to steel wire ropes	
		KT0207 Safety requirements (including PPE)	
651501000-KM-10, Winder ropes, safety detaching hooks and sheave wheels, NQF Level 4, Credits 11	**KM-10-KT01: Winder rope examination (18%)**	KT0101 Condition assessment of steel wire ropes on mine winders (discard criteria) KT0102 Criteria for examining a winder rope (four major groups, broken wires, changes in diameter and lay length, effects of corrosion and distortions)	**H1**
		KT0103 Workplace hazards	
		KT0104 Preparations to examine winder ropes (permission, PPE, tools, material and equipment; machinery logbook, winding engine driver communication, attachment of testing equipment here relevant)	
		KT0105 Examination and measuring of the winder rope	
		KT0106 Post-examination procedures	
	KM-10-KT02: Safety detaching hook (15%)	Terminology (spectacle plate, humble hook [rocket type, Stephen type] jack catches)	**H1**
		KT0202 Components of a safety detaching hook (6 pins [top shackle pin, pivot pin, copper shear pin, locking pin, link plate pin, and draw bar top pin]; drawbars; scissors plate; hook body; link plates etc.) (Pins complete with nut and splitpins, hook body, copper shearing pin, jaw and tang chaseblocks, drawbar, rope socket)	
		KT0203 Operation of a safety detaching hook during an overwind condition	

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		KT0204 Inspection procedures for a safety detaching hook (daily)	
		KT0205 Useful life, in-service frequency for safety detaching hook (MHSA regulations 16.19	
		KT0206 Retrieving a conveyance after an over-wind	
		KT0207 Safety requirements (including PPE)	
	KM-10-KT03 Winder rope replacement	KT0301 Workplace hazards associated with replacing winder ropes	**H2**
		KT0302 Identification and selection of rope, verification off rope inspection certificate	
		KT0303 Other workplace personnel involved in replacement of winder rope	
		KT0304 Preparations to replace winder ropes (permission, PPE, tools, material and equipment; logbook entries, lock-out procedures, rope reeler)	
		KT0305 Winder rope replacement method (coiling and uncoiling and removing discarded rope and installing new rope	
		KT0306 Winder rope testing procedures (electro-magnetic testing to determine baseline for future comparison)	
		KT0307 Post-replacement procedures (MD208 documentation to DMR)	
	KM-10-KT04: Terminating and securing the back-end of a winder rope (16%)	KT0401 Factors critical to terminating and securing of a back-end of a winder rope	**H2**
		KT0402 Workplace hazards	
		KT0403 Preparations to terminate and secure the back-end of a winder rope (permission, PPE, tools, material and equipment; machinery logbook, winding engine drivers logbook)	
		KT0404 Procedures for terminating and securing the back-end of a winder rope around the winder drum shaft by means of a clove hitch and application of rope clamps	

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		KT0405 Procedures for doubling down to remove rope from winder drum	
		KT0406 Procedures for suspending conveyance in shaft by means of applying friction clamps to the winder rope	
	KM-10-KT05: Terminating and preparing a front-end wire lock poured socket on a winder rope (16%)	KT0501 Factors critical to terminating and pouring a termination socket on a winder rope using resin socket	**H2**
		KT0502 Workplace hazards	
		KT0503 Preparations to terminate and prepare winder rope termination socket (permission, PPE, tools, material and equipment; winding engine driver logbook)	
		KT0504 Procedures for measuring and serving to cut winder rope for new termination	
		KT0505 Resin capping procedure (cutting, preparing the brush, health and safety requirements, material, preparation, cleaning and positioning of the rope and socket, temperatures, mixing the constituent materials, pouring, inspection, marking, re-lubrication, handling, disposal of resin residue, safety precautions, resin kit size, resin kit expiry date, storage of resin kits)	
		KT0506 Procedure for securing rope socket to pour resin and allow for gelling and curing	
		KT0507 Procedure for inspecting completed resin socket termination	
		KT0508 Post-termination housekeeping activities	
	KM-10-KT06: Replacing a sheave wheel (17%)	KT0601 Factors critical to replacing a winder rope sheave wheel (injury, damage to equipment, loss of production time, increased costs, workplace hazards)	**H3**
		KT0602 Components of a winder rope sheave wheel (rim, spokes, fish plates, shrink rings, shaft, bearing plumber blocks, balancing weights)	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0603 Preparations to create slack on winding rope to remove the sheave wheel (doubling down and suspending conveyance procedures, permission, PPE, tools, material and equipment; lockout procedures)	
		KT0604 Preparations to lift and float sheave wheels (mobile crane position, lifting equipment and	
		KT0605 Preparing sheave wheel groove profile to suit rope diameter	
		KT0606 Procedures for replacing and testing a winder rope sheave wheel	
. 651501000-KM-11, Basic slinging and lifting, and load securing operations, NQF Level 2, Credits 15	**KM-11-KT01: Slinging regular loads (up to 3 tons) (19%)**	KT0101 Basic principles of slinging (including regular load) KT0102 Slinging equipment (wire rope, chains, slings, web belts, turn buckles, shackles and eyebolts, lifting beams, spreader bars, lifting devices, natural, synthetic ropes, chains and web slings)	
		KT0103 Types of slings (endless round or grommet, sling, single sling, double leg, triple leg, four or quad leg, combination sling; chain slings, synthetic web slings, standard eye-and-eye and twisted eye slings, metal mesh slings, fibre rope slings)	
		KT0104 Slinging techniques or methods (single vertical hitch, bridal hitch, single basket hitch, double basket hitch, double wrap basket hitch, single choker hitch, double wrap choker hitch, cradle, basket, choking, combination, single hitch, Halshing method, wrap, reeving)	
		KT0105 Weight of load	
		KT0106 Packing and dunnage	
		KT0107 Communication methods (include hand, whistle, flags and electronic types [radio telephone, two-way radio, other electronic devices])	
		KT0108 Safe working practices	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	KM-11-KT02: Manual lifting equipment and tackle (21%)	KT0109 Post-slinging activities (cleaning up, processing documentation and reporting load-slinging activities to responsible persons)	**B2**
		KT0201 Lifting tackle (slings, rope, shackles, eye bolts, spreader and equalising beams, clamps, pulley systems, auxiliary rigging accessories, namely: "skids", "skates" and "sliding shoes", rollers, cradle timbers, chocks and wedges, packers, fish-plates, rigging screws, turnbuckles, swivels, shackles, rope clips)	
		KT0202 Tackle systems (simple tackle systems; determining the mechanical advantage (MA) of simple block systems; compound tackle systems; two (2) methods of determining ratio of a simple and compound system [counting supporting lines and unit force])	
		KT0203 Hand-power lifting devices (chain blocks, lever hoist, portable wire rope puller {tirfor}; types of jacks [ratchet-lever jack, screw jack, teamboat ratchets, hydraulic Jacks])	
		KT0204 Types of reeve blocks (snatch, travelling, standing, leading, manila-rope double block; manila-rope snatch block; wire-rope snatch block, wire-rope single block; wore-rope double block; twisting of blocks)	
		KT0205 Method for reeving a block and tackle (12 general rules, two-part falls, three-part falls, four-part falls, five-part falls, six-part falls, seven-part falls and eight-part falls)	
		KT0206 Anchors (natural anchors; man-made anchors rock anchors, picket holdfasts [single wooden pickets; multiple wooden pickets; steel-picket holdfasts; rock holdfasts], combination holdfasts)	
		KT0207 Pre-operational checks and inspection of manual lifting equipment; cleaning and safe storage of lifting equipment; maintaining and recording the status of lifting equipment and accessories; identification markings include work load limits (WWL) and safe working load (SWL); identification number)	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0208 Defects in manual lifting equipment and tackle [wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, overdue for load test]	
		KT0209 Safe working practices (include site access, communication and signalling methods, centre of gravity of load, safety nets, static lines, fall arrest systems)	
		KT0210 Friction	
		KT0211 Guy lines (tension on guy lines, types of guy lines [rear, side, front]; gin pole and shears)	
	KM-11-KT03: Lifting operations using manual lifting equipment and tackle (17%)	KT0301 Types of lifting machines (manual lifting equipment, cranes etc.) KT0302 Preparations for lifting task (scope and nature of the lifting task; resources support materials, applicable documentation [drawings, permit conditions]; equipment; personnel; calculations related to safe working load [SWL] and work load limit [WLL], site access)	**I1**
		KT0303 Conditions (ground conditions [location of underground services, ground stability, water tables]; tidal conditions on the quay-side (marine), ship's stability; overhead hazards [power lines, telephone cables, bridge structures, buildings, ships' structure]; wind conditions; roadway conditions; restricted areas; loading area conditions; traffic flow; selection of lifting equipment based on safe working load of specific lifting equipment parameters [load-size, shape, weight, height, quality practices])	
		KT0304 Materials and methods used for fixing, anchoring, bracing, supporting and securing loads	
		KT0305 Isolations, demarcations and lockout procedures	
		KT0306 Processes involved in lifting and moving loads using manual lifting equipment and tackle (including centre of gravity, lifting, positioning and securing structural objects [steel, timber, pre-cast concrete or other similar materials], machinery and/or machine components which are commonly handled within a variety of industrial environments]; inclination to be traversed; safety precautions; work instructions; communication and signal methods; methods and measures for the safe control of loads during lifting procedure; permissible load and securing methods [capacity loaded, permissible items, securing mechanisms, specific lifting equipment and/or gear operating requirements)	
		KT0401 Types of cranes (cab-controlled overhead cranes, pendant-controlled overhead cranes, gantry cranes, mobile cranes)	**I4**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	KM-11-KT04: Directing crane operations (13%)	KT0402 Crane operations KT0403 Hazards and risks associated with crane directing operations KT0404 Preparation for crane directing (PPE and safety equipment, communication equipment, lifting attachments) KT0405 Directing crane operations	
	KM-11-KT05: Securing loads for transportation (14%)	KT0501 Types of loads (normal and abnormal; regular and irregular)	**I5**
		KT0502 Lifting equipment (tackle, belts, straps and chain)	
		KT0503 Methods of securing (lashings including various types of cam buckles, ratchets, webbing devices, short link chains, ratchet tie-down and winch tie-down systems; lashings and sling protection, lashings secured to the vehicle chassis, including cross-bearers, outriggers, etc.; types of ropes, rope hooks and anchorages, cargo anchorages, clamps, steel wire ropes, chains, harnesses, nets, shackles, tensioners, containers, arrangements of lashing for containers; baulking arrangements [including headboards, bulkheads, spigots, transverse beams, shoring bars, cargo winches, cargo straps, etc.}; friction between the cargo and the cargo platform])	
		KT0504 Communication signals	
		KT0505 System load chart	
		KT0506 Magnitude of forces (ratings of cargo security systems (forward, rearward, sideways, vertical	
		KT0507 Centre of gravity and dynamic and restraining forces	
		KT0508 Planning and preparation to secure loads (equipment to secure, resources [mechanical handling equipment, support materials, applicable documentation and personal protective equipment]; transport vehicle; lifting space; pre-operational checks)	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0509 Loading and positioning (cargo distribution and arrangement on vehicles, use of dunnage, loading methods [rolls, drums, and other cylindrical cargoes, loading of more than one layer of cylindrical items, e.g. rolls], loading method for boxes, sacks, glass, mixed load, gas cylinders)	
		KT0510 Timber and log cargoes (preferred method of carrying sawn timber and securing systems; round timber (general cargo distribution and securing systems; stacks on the longitudinal axis {two or three log cargo, round un-barked timber longer than 3m, , three log cargo, one short peaker, two lashings around the cargo the bunks to include all logs, or extra lashings on short log, five or more log cargo, 5m or more in length, four log cargo, two short peaker, seven or more log cargo, two stacks of short logs, three stacks of short logs}; crosswise loading of short length logs)	
		KT0511 Metal cargo (metal plates [typical securing systems for metal plate, metal sheet in rolls, arrangement of rolls on the cargo platform, choking sizes for cylindrical cargoes; chocking and lashing arrangements for cylindrical cargoes carried lengthwise lashings; single roll – eye vertical; multiple rolls – eyes vertical; multiple grouped rolls – eyes vertical; single roll – eye crosswise; multiple rolls – eyes crosswise; multiple grouped rolls – eyes crosswise; single rolls – eyes lengthwise; grouped rolls – eyes lengthwise; grouped multiple rolls – eyes lengthwise])	
		KT0512 Chocking and chocking sizes (choking sizes for cylindrical cargoes, chocking, and head and tailboard sizes for cylindrical cargoes, preferred chocking arrangement for long cylindrical cargoes carried lengthwise, choking and lashing arrangement for pipes, chocking and lashing arrangement for cylindrical cargoes carried lengthwise)	
		KT0513 Safety requirements for all operations	
		KT0514 Inspection procedures	
	KM-11-KT06: Placing and moving a load	KT0601 Factors critical to placing and moving a load by utilising rollers (injury to persons, damage to equipment, loss of production time through breakdowns, increased costs, critical hazards and risks)	**I2**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	utilising rollers and sliders (16%)	KT0602 Preparations to place and move a load utilising rollers (permission, tools, materials and equipment; mass of the load, storage area, rollers, personal protective equipment; potential obstructions at worksite)	
		KT0603 Moving and positioning procedures	
		KT0604 Safety requirements	
651501000-KM-12, Slinging and intermediate lifting methods, NQF Level 3, Credits 25	**KM-12-KT01: Slinging complex loads (14%)**	KT0101 Characteristics of a complex load (unequal weight distribution, eccentric loading, irregular shape and proportions, with or without set lifting points)	**I2**
		KT0102 Slinging equipment (wire rope, chains, slings, web belts, turn buckles, shackles and eyebolts, lifting beams, spreader beams/bars, lifting devices, slings including natural, synthetic and wire ropes, web slings)	
		KT0103 Weight of load and WLL	
		KT0104 Packing and dunnage	
		KT0105 Slinging techniques	
		KT0106 Sling and load protection methods	
		KT0107 Communication methods (include hand, whistle, flags and electronic types [radio two-way radio, other electronic devices])	
		KT0108 Safe working practices	
		KT0109 Post-slinging activities (cleaning up, processing documentation and reporting load-slinging activities to responsible persons)	
		KT0110 Stresses (calculations) breaking forces	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0111 Inspecting padding slings	
		KT0112 Effect of alpha and beta angle on a sling load (load angle factor [LAF])	
		KT0113 Centre of gravity and its effect on a lift	
		KT0114 Formulae for calculating WLL with different types of hitches	
	KM-12-KT02: Lifting, moving and manoeuvring a load using mechanical lifting equipment (14%)	KT0201 Factors critical to lifting, moving and manoeuvring a load using mechanical lifting equipment	**I2**
		KT0202 Possible critical hazards and substandard conditions	
		KT0203 Types of mechanical equipment (include tirfor hoists; chain blocks; lever hoists; rope tackles/snatch blocks, types of jacks)	
		KT0204 Preparation to move a load (permission to enter the workplace, PPE; tools, materials and equipment; inspection of lifting equipment, calculations for mass of the load, consequences of inadequate preparation)	
		KT0205 Procedures to lift, move and manoeuvre loads using mechanical lifting equipment (PPE, rigging plan or sketch or map, examination of suspension and attachment points, lifting and positioning, tools and equipment, teamwork)	
		KT0206 Load preparation for production purposes	
		KT0207 Safety and environment requirements	
	KM-12-KT03: Lifting loads using the floating method (12%)	KT0301 Floating methods (include the use of lifting machinery and equipment [chain blocks; lever hoists; air hoists; winches; derricks, slings, rope, shackles, eye bolts, spreader and equalising beams, clamps, pulley systems, pull lifts, jacks, sliding shoes, rollers, tirfors] and may include the use of various types of cranes)	**I7**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0302 Preparations to lift and float loads (lifting equipment, resources [include mechanical handling equipment, support materials, applicable documentation, personal protective equipment]; potential obstructions at worksite; pre-operational checks, planning layout sketch)	
		KT0303 Lifting and floating procedures (lifting, positioning and securing objects [structure steel, timber, pre-cast concrete or other similar materials], machinery and machine components which are commonly handled within a variety of industrial environments)	
		KT0304 Maintenance, caring for and storage of equipment	
		KT0305 Safety requirements	
	KM-12-KT04: Lifting and turning a load (12%)	KT0401 Factors critical to lifting and turning a load	**I7**
		KT0402 Hazards and risks when lifting and turning a load	
		KT0403 Preparation to lift and turn a load (permission to enter the workplace, PPE; tools, materials and equipment; preparation of load, inspection of lifting attachments, mass of the load)	
		KT0404 Slinging methods (choker/reeving)	
		KT0405 Lifting and turning operations for a load (PPE, tools and equipment, teamwork)	
		KT0406 Safety requirements	
	KM-12-KT05: Guiding the lifting and positioning of loads (12%)	KT0501 Lifting equipment (limitations, safety requirements, safe storage)	**I4**
		KT0502 Communication signals	
		KT0503 Load connection equipment (slings, rope, shackles, eye bolts, spreader beams and equalising gear, clamps, pulley systems, chain blocks and pull lifts, winches, jacks, skids, skates and sliding shoes, rollers, cradle timbers, chocks and wedges, packers, fish-plates and bolts, feeler gauges, rigging screws, tirfors and turn buckles)	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	KM-12-KT06: Lifting loads using pick and carry method (12%)	KT0504 Preparations for lifting (levels and set out alignments of structures, drawing specifications, rigging study or rigging plan, ground conditions, overhead hazards, materials used for fixing, anchoring, bracing, supporting and securing; calculation of mass)	**I7**
		KT0505 Lifting procedures (load connection equipment inspection, guidance towards located position; stability of loads maintained; design engineer's specifications; hazard prevention and control measures)	
		KT0506 Positioning and securing of loads KT0601 The pick and carry method KT0602 Preparations for lifting task using pick and carry method (scope and nature of the lifting task; resources [lifting equipment, support materials, applicable documentation, personal protective equipment, crane/s, personnel]; pre-operational checks; ground conditions [location of underground services, ground stability, water tables, tidal conditions on the quay-side (marine), ship's stability; overhead hazards [power lines, telephone cables, bridge structures, buildings, ships' structure]; roadway conditions, traffic flow, restricted areas, loading area conditions	
		KT0603 Processes involved in lifting and moving loads using pick and carry method (including structural objects [steel, timber, pre-cast concrete or other similar materials], machinery and/or machine components which are commonly handled within a variety of industrial environments]; safety precautions; work instructions] .	
		KT0604 Lifting equipment (use, care and maintenance of equipment)	
		KT0605 Defects (wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, overdue for load test)	
		KT0606 Isolations, demarcations and lockout procedures	
	KM-12-KT07: Re-railing rail-bound equipment (12%)	KT0701 Workplace hazards and risks that may be encountered while re-railing conveyance	**I3**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0702 Preparations for re-railing (permission, PPE, Tools, material and equipment, mass of the unit to be re-railed	
		KT0703 Safety requirements	
		KT0704 Procedures to re-rail rail-bound equipment	
		KT0705 Lifting equipment and tackle (including jacks [screw jack, ratchet jack, hydraulic jack], mobile cranes etc.)	
		KT0706 Teamwork	
		KT0707 Post-operational activities	
	KM-12-KT08: Lifting loads using temporary construction lifting methods (12%)	KT0801 Factors critical to lifting operations using temporary construction lifting methods	**I3**
		KT0802 Gin poles (rigging gin poles, erecting gin poles, operating gin poles)	
		KT0803 Erecting tripods	
		KT0804 Erecting shears (A-frame)	
		KT0805 Erecting boom derricks (types of derricks [stiff-leg, steel derricks, pole derricks; brave derricks; Jinniwinks derricks])	
		KT0806 Possible critical hazards and substandard conditions	
		KT0807 Preparations to conduct lifting operations using temporary construction lifting methods (permission to enter the workplace, PPE; tools, materials and equipment; inspection of workplace; mass of the load; consequences of poor preparation)	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0808 Conducting lifting operations using temporary construction lifting methods (PPE, dealing with hazards; lifting and positioning, tools and equipment, teamwork)	
		KT0809 Post-lifting activities KT0810 Safety requirements	
651501000-KM-13, Lifting equipment and machines (excluding hand powered	**KM-13-KT01: Legislative framework governing lifting machines (excluding hand powered lifting devices) (35%)**	KT0101 Occupational Health and Safety Act (85/1993) including Driven Machinery Regulations (2015) [DMR] and related Regulations	**A2**
		KT0102 Mine Health and Safety Act (29/1996)	
		KT0103 National Code of Practice for the Evaluation of Training Providers (NCOP) [GG 27292 - 18 February 2005]	
		KT0104 General Safety Regulations (GSR) [1996	
	KM-13-KT02: Mobile and manually-operated lifting machines (trackless mobile machines [TMMs]) (35%)	KT0201 Legislative requirements	**I4**
		KT0202 Types and classes of machines in the lifting machinery environment	
		KT0203 Systems of the lifting machines (braking system, cooling system, hydraulic systems)	
		KT0204 Instruments of lifting machines (includes gauges, indicators, warning devices)	
		KT0205 Levers, controls and safety devices of lifting machines	
		KT0206 Pre-use inspection procedures, and recording and reporting on lifting machines	
		KT0207 Testing load-bearing components	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0208 Maintenance of lifting machines	
	KM-13-KT03: Inspection and maintenance procedures for lifting machines (30%)	KT0101 Inspection procedures (checking for non-compliance in terms of legislation) and inspection criteria (regulatory requirements)	**I4**
		KT0102 Maintenance procedures (cleaning, lubrication)	
		KT0103 Common defects in lifting machines	
		KT0104 Planning for maintenance	
		KT0105 Preparatory procedures for maintenance (the isolation of lifting machinery and the erection of preventative signage and barriers)	
		KT0106 Lubricants, lubrication methods and safety requirements	
651501000-KM-14, Advanced lifting methods, NQF Level 4, Credits 24	**KM-14-KT01: Rigging studies (12%)**	KT0102 Reasons for a rigging study (includes but not limited to safety of personnel, safety of the load or cargo, reliability of lifting machinery, risk consequences of equipment failure, cost saving, prevention of escalating problems)	**C3**
		KT0102 Components/aspects of a rigging study (weight [mass] of the load; slinging method; minimum sling length and sling size; conditions [permissible single line pull using a safety factor]; weight of the rigging hardware [parameters include: main hook, ball, hook, rigging and other factors]; actual load to be lifted; reeving [parts of line required: jib-hook and main block]; measurement and determination of load radius, boom length, boom angle, jib length and jib angle; selection on load chart (on rubber; on outriggers fully extended; partially extended outriggers - only at AT1100); selection of work area quadrants [over rear, front side and over 360º]; selection on crane load chart [structural strength, tyre size, stability, tyre pressure]; calculations of lifting capacity according to the load chart)	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0103 Parameters for executing the rigging task (include checking the ground condition, cable trenches and drains; determining the wind speed to see whether within the limits; checking for overhead power lines; making sure that the load is freely suspended; making sure permit is signed on; making sure the crane is level within 1° N.S.E.W and can rotate freely; testing the main or auxiliary hoist brakes before lifting; discussing the pre-engineering lift as well as the task with the crane driver)	
		ü KT0104 Risk factors during the execution of the rigging task	
		KT0105 Analysis of the rigging task (includes to time spent during the rigging task, costing related to rigging task; special tools need to perform the task, the cost of special parts, the cost of highly qualified personnel needed to perform the work)	
		KT0106 Conducting the rigging study Positioning of the cranes; capacity of crane and working radius; boom angle and boom length Determining weight of load and sling method [weight (mass) of the load; slinging method; minimum sling length and sling size; conditions (permissible single line pull using a safety factor); weight of the rigging hardware (parameters include: main hook, ball, hook, rigging and other factors); actual load to be lifted.; reeving (parts of line required: jib-hook and main block) Equipment manufacturer's specifications (measurement and determination of load radius, boom length, boom angle, jib length and jib angle; selection on load chart (on rubber; on outriggers fully extended; partially extended outriggers - only at AT1100); selection of work area quadrants (over rear, front side and over 360º); selection on crane load chart (structural strength, tyre size, stability, tyre pressure); determination of lifting capacity according to load chart/s) Risk analysis Comparison between the nett lifting capacity to actual weight of load	
	KM-14-KT02: Lifting operations	KT0201 Types of tandem lifting methods (standard tandem lift, top and tail (trunnions and type of slings to be used with trunnions); spreader beams, lifting beams)	**I7**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	using the tandem lifting method (11%)	KT0202 Planning for tandem lifting and for transferring loads between lifting equipment (equipment selection; evaluation and derating of lifting equipment charts are in accordance with good and safe working practice; analysis of lifting equipment charts; calculation of mass of loads and safe working loads for the duration of the lifting operation; calculation of the location and route of travel in relation to the centre of gravity; valid load test certificates for lifting machines and equipment; informing insurance companies)	
		KT0203 Preparation for tandem lifting (checking levels and set out alignments of structures; evaluation of ground conditions, overhead hazards and climatic conditions; isolating erection site; safety procedures; communication signals)	
		KT0204 Procedures to set-up and control cranes (lift control; positioning of hoist lines; use of secondary crane; controlling crane movements; maintaining load stability)	
		KT0205 Safety requirements for tandem lifting and for transferring loads between lifting equipment	
	KM-14-KT03: Transferring loads between lifting equipment (11%)	KT0301 Identification of lifting equipment and machinery	**I7**
		KT0302 Planning for transferring loads lifting (equipment selection; evaluation and derating of lifting equipment charts are in accordance with good and safe working practice; analysis of lifting equipment charts; calculation of mass of loads and safe working loads for the duration of the lifting operation; calculation of the location and route of travel in relation to the centre of gravity; certificates for lifting machines and equipment; informing insurance companies)	
		KT0303 Preparation for transferring loads (checking levels and set out alignments of structures; evaluation of ground conditions, overhead hazards and climatic conditions; isolating erection site; safety procedures; communication signals)	
		KT0304 Procedures to set-up and control cranes (lift control; positioning of hoist lines; use of secondary crane; controlling crane movements; maintaining load stability)	
		KT0401 Winches (types, applications, components)	**I2**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	KM-14-KT04: Lifting and moving a complex load using a winch (11%)		
		KT0402 Lifting tackle and lifting equipment	
		KT0403 Preparations to lift and/or move the complex load (resources [include mechanical handling equipment, support materials, applicable documentation, personal protective equipment]; pre-operational checks)	
		KT0404 Lifting and moving procedures	
		KT0405 Maintenance, care and storage of lifting equipment and tackle	
	KM-14-KT05: Transferring a load by means of snatching and anchoring (11%)	KT0501 Critical factors to transferring a load by means of snatching and anchoring	**I3**
		KT0502 Possible critical hazards while transferring a load by means of snatching and anchoring (danger triangle) preparation) KT0503 Preparation to transfer a load by means of snatching and anchoring (permission to enter the workplace, PPE; tools, materials and equipment; inspection of lifting equipment, mass of the load, consequences of inadequate	
		KT0505 Transfer the load by means of snatching and anchoring (PPE, work-related hazards; reeving of the rope and securing it to termination point; teamwork)	
		KT0506 Load transferring process	
		KT0507 Post transfer processes	
		KT0508 Safety requirements	
			I4

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	KM-14-KT06: Supervise advanced mobile crane operations (11%)	KT0601 Planning for supervision of mobile crane operations (evaluation of lifting task; determining sequence of operations; mitigation of risks; rigging study, selection of tools and equipment; (crane attachments); alternative equipment; informing rigging team)	
		KT0602 Preparation of work area (inspection of area; determining safety procedures; PPE)	
		KT0603 Supervision of operations (placing of crane in optimal position [within convenient reach of load, sound solid ground - wheels, outriggers; blocking, pads, clear slewing area with load, work area cordoned off]; assistants located appropriately; confirmation that load is properly attached; dealing with unexpected circumstances)	
		KT0604 Post-supervision activities (documentation, checks etc.)	
		KT0605 Setting-up a mobile crane	
	KM-14-KT07: Tube bundle removal (11%)	KT0701 Major components of tube bundle machine (heat exchangers)	**I6**
		KT0702 Preparation of heat exchanger for tube bundle removal and installation	
		KT0703 Procedures to remove and install tube bundle	
		KT0704 Safety procedures	
	KM-14-KT08: Boom conversion (11%)	KT0801 Mobile cranes	**I4**
		KT0802 Lifting equipment (chain slings, wire rope slings, rope, shackles, eye bolts, spreader and equalising beams	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0803 Planning and preparing for boom conversion (scope and precise nature of the lifting task, availability of lifting equipment and resources [mechanical handling equipment, support materials, applicable documentation, personal protective equipment], pre-operational checks, checking work area, preparation of the boom; relationship of the load to the use of appropriate lattice cranes; relationship of power to weight as a ratio; hazards and risks)	
		KT0804 Boom conversion procedure (lowering the boom, removing the hooks, slagging the boom suspension, prescribed sequence/procedure, communication methods)	
		KT0805 Post boom conversion processes	
		KT0806 Safety requirements (safety checks, quality checks)	
	KM-14-KT09: Tailing a load (11%)	KT0901 Lifting equipment involved (cranes)	**I7**
		KT0902 Aspects of importance (requires a higher level of planning, engineering, communication, and execution; load falls must be kept plumb; work slowly and perform only one function at a time with each crane; the load distribution varies throughout the lift; signalling is of the most importance and should be performed by only one experienced person	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		KT0903 Principles of tailing operations (at least five of the following examples must be taught: tailing a “dressed” tower with a crawler crane ‘dressed” refers to the addition of ladders, platforms, piping, etc. prior to erection; lifting attachments: tailing with a choker hitch; tailing with a single choker hitch; lifting attachments: tailing lug; tailing with a fixed crane with tail lugs on the bottom of the module; tailing from the side due to tail lug placement; single tail crane on the side due to lug location; tailing from the side with a crawler crane and lifting with two main lift cranes; tailing from the side with a fixed tail crane; lifting a fragile load- starting the lift; tailing in an enclosed space; removing a pressure vessel in very tight surroundings; bottom head tailing lug; tailing over a live piperack; two crane lift with a weak tail; tailing with two crawler cranes connected by an inverted lift beam to a single tail lug (this allows the tracks and load fall to not interfere with each other; both cranes cannot operate directly over the rear in this case; the beam must be kept level); tailing with two highly unmatched cranes connected with an inverted spreader beam; tailing a pressure vessel with tailing trunnions- with two fixed outrigger cranes; alternate tailing- track mounted tailing device; tailing device mounted on transporters; tailing diagram for a complex operation: load versus capacity at varying radii; rebar cages- non- rigid lifts frequently requiring tailing; multiple crane lifts (more than two cranes) (except for roll-ups, lifting up and down should be the only actions allowed; de-rating the cranes is essential; planning, communication, and signalling are most important; determining accurate load distribution may be difficult, but necessary); three crane pick with inverted lift beam connecting two cranes; three crane lift; multiple cranes lifting a large roof section; multiple cranes: jacket roll up)	
		KT0904 Planning and preparing for tailing operations (scope and precise nature of the lifting task, availability of lifting equipment and resources [support materials, applicable documentation, personal protective equipment], pre-operational checks, checking work area, hazards and risks)	
		KT0905 Post tailing processes	
		KT0906 Safety requirements (safety checks, quality checks)	
651501000-KM-15,	**KM-15-KT01: Leading a team in**	KT0101 Team organisation and team roles	**A7**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
Management-related activities, NQF Level 4, Credits 4	**a rigger's environment (60%)**	KT0102 Interaction with work team (work scheduling, briefing the team, job cards)	
		KT0103 Materials, plant and safety equipment	
		KT0104 Labour requirements for tasks	
		KT0105 Meetings and information flow	
		KT0106 Motivating a team and building good relations in the workplace	
		KT0107 Conflict management techniques	
		KT0108 Feedback on team members	
		KT0109 Report forms (as per job card)	
	KM-15-KT02: Monitoring the application of safety, health and environmental protection procedures (40%)	KT0201 Monitoring adherence to safe and environmentally friendly work practices by work team	**A3**
		KT0202 Preventive measures in area of responsibility	
		KT0203 Safety, health and environmental reports	
		KT0204 Safety indicators and emergency procedures	
		KT0205 Equipment in area of responsibility	
		KT0206 Hazardous materials	
		KT0207 PPE	
		KT0208 Coaching the team in safety, health and environmental aspects, statutory rights and responsibilities	
		KT0209 Evaluation of the SHEQ system (in terms of a rigger's work)	

Module	Topic	Guideline for topic	Applied Knowledge	NOCC A21 Learning Area and Work Situation
Practical Modules				
651501000-PM-01, Work safely and respond to emergencies, NQF Level 2,	**PM-01-PS01: Read and respond to safety signage**	PA0101 Identify and describe the purpose of various types of safety signage	AK0101 Purpose of warning, mandatory, statutory and informative signs	**A3**
		PA0102 Explain the precautions or actions that have to be taken in response to each safety sign	AK0102 Workplace safety, health and environmental principles and procedures	
		PA0103 Explain the implications and consequences of not responding correctly to safety signage	AK0103 Specified requirements pertaining to employers' and employees' duties concerning occupational safety and health	
			AK0104 Consequences of not obeying safety signage	
	PM-01-PS02: Identify and mitigate risks	PA0201 Identify hazards and risks	AK0201 Hazards on a rigging site AK0202 Demarcated areas, emergency stops, exits, first aid stations AK0203 Ways of mitigating risk and securing worksite	**A3**
		PA0202 Identify demarcated areas, emergency stops, exits, first aid stations		
		PA0203 Mitigate risk within ambit of responsibility		
		PA0204 Escalate risks and hazards beyond one’s responsibility to appropriate personnel		

		PA0205 Secure worksite PA0206 Report on safety issues	AK0204 Responsibilities in terms of mitigating risk AK0205 Reporting formats	
651501000-PM-02, Fabricate simple components, manufacture basic rigging hand tools using hand, power and measuring tools and equipment, NQF Level 2,	**PM-02-PS01: Use engineering hand tools**	PA0101 Identify the given tools and describe and explain their functions PA0102 Inspect tools for defects and report on findings PA0103 Interpret a variety of work instructions, select the relevant tools, materials and personal protective equipment for each task PA0104 Prepare the work area and conduct a risk assessment PA0105 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions PA0105 Use the tools to achieve the requirements of the work instruction PA0106 Clean, maintain and store tools PA0107 Perform housekeeping	AK0101 Safety procedures and requirements AK0102 Typical hazards and risks associated with hand tools AK0103 Safe working procedures AK0104 Manufacturers' procedures and specifications (torque specifications) AK0105 Inspection techniques AK0106 Correct application of tools AK0107 Techniques for using and maintaining basic hand tools AK0108 Safety and housekeeping standards related to tools and equipment AK0109 Storage and maintenance techniques	**B1**

			AK0110 Environmental requirements and practices for handling and disposing of materials	
	PM-02-PS02: Use engineering power, hydraulic and pneumatic tools and equipment	PA0201 Identify workshop tools and equipment	AK0201 Typical hazards and risks associated with workshop tools and equipment AK0202 Hazard identification and risk assessment practices AK0203 Practices related to quality, health, safety and protection of the environment when using power tools AK0204 Techniques for using and maintaining workshop tools and equipment AK0205 Identification, function, use and care of workshop equipment and power tools AK0206 Inspection procedures	**B1**
		PA0202 Inspect tools and equipment for defects, tag and report findings		
		PA0203 Interpret work instructions, select the relevant tools, equipment, materials and personal protective equipment for each task		**B1**
		PA0204 Conduct a risk assessment and prepare the work area		
		PA0205 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions		
		PA0206 Demonstrate the start-up and shut-down procedures for each power tool		
		PA0207 Select grinding wheels and discs for various materials and grinder speeds		
		PA0208 Identify correct drilling speeds for various types of materials		
		PA0209 Use power tools and equipment to perform tasks		

		PA0210 Clean, maintain and store tools and equipment		
		PA0211 Perform housekeeping and clean the work area		
	PM-02-PS03: Use measuring tools and equipment	PA0301 Identify the given measuring devices	AK0301 Safe working procedures AK0302 Manufacturers' procedures and specifications related to measuring(clearance and tolerance) AK0303 Techniques for using and reading measuring devices AK0304 Inspection techniques AK0305 Calibration methods and techniques AK0306 Clearances and tolerances AK0307 Influence of temperature on readings and measurements AK0308 Correct application of measuring devices AK0309 Typical hazards and risks associated with measuring equipment	**B3** **B3**
		PA0302 Inspect measuring equipment for defects and report on findings		
		PA0303 Where applicable, inspect tools and equipment for calibration and calibrate if required		
		PA0304 Interpret a variety of work instructions, select the relevant tools, equipment, materials and personal protective equipment for each task		
		PA0305 Conduct a risk assessment and prepare the work area		
		PA0305 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions		
		PA0306 Determine applicable tolerances and use different measuring devices for a variety of tasks		

		PA0307 Take and record accurate readings or measurements	AK0310:Environmental requirements and practices	
		PA0308 Clean, lubricate and store measuring equipment after use		
	PM-02-PS04: Fabricate simple components using basic hand tools	PA0401 Interpret a variety of work instructions, select the relevant tools, materials and personal protective equipment for each task	AK0401 Techniques for using and maintaining tools and equipment AK0402 Safety procedures and requirements AK0403 Manufacturers' procedures and specifications AK0404:Identification and characteristics of metals AK0405 Typical hazards and risks associated with basic hand tools AK0406 Measuring techniques AK0407 Functions and applications of hand tools AK0408 Storage of hand tools AK0409:Environmental requirements and practices	**B4** **B4**
		PA0402 Conduct a risk assessment and prepare the work area		
		PA0403 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions		
		PA0404 Measure and mark off materials using a variety of measuring and marking off tools		
		PA0405 Use hand tools applicable to the trade and fabricate a work piece		
		PA0406 Grind materials		
		PA0407 Drill a workpiece		
		PA0408 File materials		
		PA0409 Cut internal and external threads		

		PA0410 Saw materials		
		PA0411 Clean, maintain and store tools		
		PA0412 Perform housekeeping according to worksite procedure		
	PM-02-PS05: Manufacture basic rigging hand tools	PA0501 Interpret a variety of work instructions, and drawings for rigging hand tools select the relevant tools, materials and personal protective equipment for each task		**B4**
		PA0502 Conduct a risk assessment and prepare the work area		**B4**
		PA0502 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions		
		PA0503 Measure and mark off materials using a variety of measuring and marking off tools		
		PA0504 Use hand tools and fabricate a work piece		
		PA0505 Grind materials		
		PA0506 Drill materials		
		PA0507 File materials		

		PA0508 Cut internal and external threads		
		PA0509 Saw materials		
		PA0510 Case harden and anneal rigging tools manufactured		
		PA0511 Clean, maintain and store tools and clean work area		
651501000-PM-03, Arc weld and gas cut metals, NQF Level 2,	**PM-03-PS01: Arc weld metal to specification using shielded metal arc welding process**	PA0101 Interpret task instructions, select the relevant tools, equipment, materials and personal protective equipment for each task	AK0101 Identification, function, use and care of arc welding machines AK0102 Procedures to arc weld work pieces AK0103 Arc welding methods and positions AK0104 Arc welding safety precautions AK0105 Basic electricity (AC, DC, Currents) with regards to welding and concepts (voltage, current and frequency) AK0106 Properties of metals and gases AK0107 Effects of heat	**D1** **D1**
		PA0102 Conduct a risk assessment and prepare the work area		
		PA0102 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions		
		PA0103 Prepare equipment for the required welding task		
		PA0104 Select welding electrodes		
		PA0105 Set-up arc welding machine and work piece		
		PA0106 Perform fillet welds in 1F, 2F and 3F positions		

		PA0107Perform groove welds in 1G, 2G and 3G positions PA0108 Clean welds, dispose of waste and store equipment as required	AK0107 Applicable occupational health, safety and environmental practices AK0108 Hazard identification and risk assessment practices AK0109 Weld symbols, weld defects, shielded metal arc welding (SMAW) theory	
	PM-03-PS02: Gas cut metal to specification using oxy-fuel gas-cutting and propane processes	PA0201 Interpret task instructions, select the relevant tools, equipment, materials and personal protective equipment for each task PA0202 Conduct a risk assessment and prepare the work area PA0303 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions PA0204 Mark-off work pieces PA0205 Prepare equipment for the required cutting task PA0206 Set-up gas cutting equipment and work pieces PA0207 Cut material to specification using oxy-fuel process	AK0201 Identification, function, use and care of gas cutting equipment AK0202 Procedures to gas cut work pieces AK0202 Gas cutting methods (oxy-fuel and propane) AK0204 Gas cutting safety precautions AK0205 Applicable occupational health, safety and environmental practices AK0206 Hazard identification and risk assessment practices	**D2**

		PA0208 Cut material to specification using propane-cutting process PA0209 Conduct post gas cutting activities		
651501000-PM-04, Interpret engineering drawings, NQF Level 2,	**PM-04-PS01: Read and interpret engineering drawings and sketches**	PA0101 Differentiate between an engineering drawings and sketches PA0102 Interpret the scale and the geometry of the diagram PA0103 Differentiate between isometric, orthographic and oblique views PA0104 Differentiate between geometric shapes PA0105 Interpret symbols, specifications, abbreviations, types of lines, international drawing conventions, dimensions and tolerances PA0106 Interpret first and third angle orthographic projection, isometric and oblique views, including hidden detail and single plane sectional views PA0107 Interpret features in terms of both detailed representation and conventional representation PA0108 Draw sketches	AK0101Geometry and scales AK0102 Isometric, orthographic and oblique views AK0103 Geometric shapes AK0104 Symbols, types of lines, dimensions and tolerances AK0105 International drawing conventions AK0106 First and third angle orthographic projection AK0107 Sketches	**C2**

651501000-PM-05, Work at heights, NQF Level 2, Credits 4	**PM-05-PS01: Install and use fall prevention systems**	PA0101 Interpret and implement a fall protection plan (rescue)	AK0101 Types of knots (reef, single figure-eight, double figure-eight, double figure-eight on a bight, figure-nine, figure-nine on a bight, overhead, catspaw, sheepshank, bowline {double bowline; running bowline; bowline on a bight; Spanish bowline; French bowline, mousing of a hook, klemheist, overhand, stopper, anchor knots, tape slings, alpine butterfly) AK0102 Connectors include but are not limited to maillons, locking karabiner, double action snap hook, pylon hook, double action scaffold hook AK0103 Fall arrest equipment include full body harness with lanyards and energy absorbers, deceleration devices, lifelines, helmet, work positioning system, retractable life-line AK0104 Fall prevention equipment includes, body harness, body belt, lanyard, lifelines, including but not limited to guardrails, screens, barricades, anchorages AK0105 Lanyards include single legged and double-legged lanyards, work-positioning lanyards	**E4** **E4**
		PA0102 Observe changing weather conditions		
		PA0103 Identify main possible hazards associated with work at height and worksites and mitigate them		
		PA0104 Prepare and plan for installation of fall arrest and fall protection systems		
		PA0105 Assemble fall arrest system and fall arrest rescue systems		
		PA0106 Tie and use a variety of knots		
		PA0107 Install life lines (including temporary and permanent systems)		
		PA0108 Inspection and assemble fall arrest equipment and systems		

		PA0109 Observe manufacturer specifications and instructions PA0110 Report defective equipment PA01011 Perform basic fall arrest rescue	AK0106 Hazards, risks and safety requirements AK0107 The limitations and use of fall arrest equipment and fall arrest connectors	
651501000-PM-06, Erect and dismantle scaffolding, and use ladders, NQF Level 2, Credits 8	**6.2.1. PM-06-PS01: Erect access scaffolding (up to 6m)**	PA0101 Barricade, install safety nets and secure the work area PA0102 Identify and select components to drawing specifications PA0103 Assess ground conditions for construction work PA0104 Determine the set-out point PA0105 Select PPE and other safety equipment PA0106 Select and use tools, equipment and materials required for scaffold PA0107 Erect and assemble scaffolding structure as per drawing specifications	AK0101 Interpretation of drawing AK0102 Basic calculations AK0103 Applications of legislation and applicable standards AK0104 Standard operating procedures (method statement) AK0105 Interpreting equipment inspection guidelines AK0106 Types of scaffold and their components (tubing and fitting scaffolding, interlocking frame [6m], and tubular or system [6m], ring system scaffolding, trestles) AK0107 Application and modification of different working	**E1** **E1**

		PA0108 Apply and modify different bracing, ties and working platforms PA0109 Complete checklist to prescribed height PA0110 Refer to relevant scaffold load charts to confirm capacity of platform	platforms (including bracing and scaffold ties) AK0108 Safety standards SANS 10085-1 AK0109HIRA AK0110Safety nets	
PM-06-PS02: Dismantle access scaffolding (up to 6m)		PA0201 Identify the scaffolding to be dismantled PA0202 Inspect scaffolding to confirm stability and readiness for dismantling PA0203 Inspect that the scaffolding structure conforms to the drawing PA0204 Secure and demarcate the area before dismantling PA0205 Put up safety signage to industry standards PA0206 Confirm the scaffolding dismantling team PA0207 Identify risks and hazards PA0208 Dismantle the scaffolding in sequence following standard procedures	AK0201 Maintenance, handling and storage of equipment and tools AK0202 Application of safety procedures and standards AK0203 Communication skills and team work AK0204 Housekeeping procedures AK0205 Standard Operating Procedures AK0206 Dismantling methods AK0207 Drawing and design interpretation skills AK0208 Safety standards SANS 10085-1	**E1** **E1**

		PA0209 Stack the scaffolding components to industry standard PA0210 Store components to worksite procedures PA0211 Remove barricade material from work site PA0212 Conduct site clearance		
	PM-06-PS03: Inspect and use ladders	PA0301 Adhere to safety requirements for all activities PA0302 Inspect ladders PA0303 Carry ladders PA0304 Erect, move and dismantle ladders (against a wall, against a roof or scaffold)	AK0301Types of ladders AK0302 Inspection procedures AK0303 Method of carrying ladders AK0304 Method of erecting ladders	**E5**
651501000-PM-07, Supervise scaffolding operations up to 6m, NQF Level 3, Credits 8	**PM-07-PS01: Plan, organise and control the erection, alteration/repositioning and dismantling of access scaffolding**	PA0101 Interpret drawings, requirements and specifications	AK0101Types of access scaffolding platforms, (tubular systems [6m] [ring systems and kwik-stage], interlocking frame [6m], walkthrough frames, tubing and fitting scaffolding, trestles; loading limitations of access scaffolds and multi-level platforms) AK0102 Identification and selection of type of scaffolding selection of	**E6**

		PA0102 Interpret specific details and dimensions of access scaffold (6m) design from drawings and task instructions	correct type of scaffold on the basis of height, duration of work, weather conditions, weight of workers, weight and type of material, equipment and types of foundation/base) AK0103 Relevant sections contained in the latest edition of SABS 0295 (Part 2) associated with access scaffolding include but are not limited to: Ordinary scaffolds and special scaffolds (type specific e.g. interlocking towers, standard access,) AK0104 Load charts for determining safe working loads AK0105 Stability requirements for the prevention of over-turning of free-standingscaffolds; documentation (including Access Scaffolding Inspection Registers and inspection checklist) AK0106 Specific details and dimensions of access scaffold design AK0107 Drawings, specifications site procedures and legislation AK0108Transportation of physical resources (tools, scaffolding	**E6** **E6** **E6** **E6**
		PA0103 Use load chart to verify safe working loads on platforms and total loading on uprights		

		PA0104 Compile action plan and prioritise activities for erecting access platforms	equipment) and human resources for access scaffolding AK0109 Erection and dismantling processes for access scaffolding AK0110 Inspection procedures AK0111 Team management AK0112 Safety requirements AK0113Housekeeping	
		PA0105 Coordinate human resources, determine access scaffold equipment required and the quantities of other material, schedule transportation of scaffolding equipment and human resources and sequence work activities for the erection of access scaffolding		
		PA0106 Identify risks and hazards for erecting access scaffolding and mitigate them		

		PA0107 Identify and allocate lay down/staging areas for materials during erecting stages, in accordance with worksite procedures		
		PA0108 Select PPE and other safety equipment		
		PA0109 Ensure supply of access scaffold materials is handed in sequence		
		PA0110 Monitor setting out of access scaffolding positions		
		PA0111Organise the erection, alteration/repositioning sequence of access scaffolding and platforms and control work activities		
		PA0112 Inspect access scaffolding works for compliance with drawings and/or requirements and cross-reference to relevant legislation and standards		
		PA0113 Identify and rectify non-conformances and re-inspect		
		PA0114 Complete Access Scaffolding Register and inspection checklist		

		PA0115 Identify risks and hazards for dismantling access scaffolding and mitigate them		
		PA0116 Compile action plan and prioritise activities for dismantling of access scaffolding		
		PA0117 Schedule and coordinate transportation of scaffolding equipment and human resources , and coordinate activities for the dismantling of access scaffolding		
		PA0118 Identify and allocate lay down for materials during dismantling stages, in accordance with worksite procedures		
		PA0119 Dismantle access scaffolding in accordance with relevant sequence and safety procedures		
		PA0120 Adhere to worksite procedures for the storage of scaffolding equipment and transportation of human resources		
	PM-07-PS02: Supervise the erecting and dismantling of access scaffolding	PA0201 Interpret drawings, requirements and specifications	AK0201 Access scaffolding and access scaffolding components AK0202 Relevant sections contained in SANS 10085 AK0203 Types of access scaffolding platforms, (tubular	**E2**
		PA0202 Interpret specific details and dimensions of access scaffold design from drawings and task instructions		

		PA0203 Use load chart to verify safe working loads on platforms and total loading on uprights	systems [6m] [ring systems and kwik-stage], interlocking frame [6m], walkthrough frames, tubing and fitting scaffolding, trestles; loading limitations of access scaffolds and multi-level platforms) AK0204 Stability requirements as per regulatory framework, documentation (including Access Scaffolding Inspection Registers and inspection checklist , safe-to-use green tags) AK0205 Specific details and dimensions of access scaffold design AK0206 Drawings, specifications, site procedures, legislation AK0207 Transportation of physical resources (tools, scaffolding equipment) and human resources for access scaffolding AK0208 Supervision processes for erecting and dismantling access scaffolding AK0209 Inspection procedures AK0210 Team management AK0211Safety requirements AK0212 Housekeeping	
		PA0204 Compile action plan and prioritise activities for erecting access platforms		**E2**
		PA0205 Coordinate human resources, determine access scaffold equipment and quantities of other material, schedule transportation of scaffolding equipment and crews and sequence work activities for the erection of access scaffolding		
		PA0206 Identify risks and hazards for erecting access scaffolding and mitigate them by compiling a site risk assessment plan		**E2**
		PA0207 Identify and allocate lay down/staging areas for materials during erecting and dismantling stages, in accordance with worksite procedures		
		PA0208 Select PPE and other safety equipment		
		PA0209 Supervise the erection, modification sequence of access scaffolding and platforms control work activities (equipment supplied in sequence, setting out of access scaffolding positions, monitoring of erection, and modification sequence, drawings and/or requirements, relevant specifications,		

		legislation and standards, removal of excess equipment)		
		PA0210 Check erected access scaffolding for compliance with drawings and/or requirements and cross-reference to relevant legislation and standards		
		PA0211 Compile action plan and prioritise activities for dismantling of access scaffolding		
		PA0212 Schedule and coordinate transportation of scaffolding equipment and human resources, and coordinate activities for the dismantling of access scaffolding		
		PA0213 Identify and allocate lay down for materials during dismantling stages, in accordance with worksite requirements		
		PA0214 Supervise the dismantling of access scaffolding in accordance with relevant sequence and safety procedures safety procedures		
		PA0215 Adhere to site procedures for the storage of scaffolding equipment		
		PA0216 Complete checklist and green tag and install tag		

651501000-PM-08, Inspect assess scaffolding, NQF Level 4, Credits 8	**PM-08-PS01: Inspect access scaffold**	PA0101 Obtain access scaffold documentation and display signage	AK0101 Different types of access scaffolding, applications, limitations, design and compliance AK0102 Items to inspect and inspection checklist AK0103 Role and responsibilities of the inspector	**E3** **E3**
		PA0102 Interpret details of access scaffold design		
		PA0103 Verify safe working loads on platforms and total loading on uprights		
		PA0104 Identify and use access scaffolding equipment		
		PA0105 Inspect access scaffolding		
		PA0106 Re-inspect modified access scaffolding systems in accordance with safety legislation requirements and SANS 10085		
		PA0107 Complete inspection checklist and green tag		
	PM-08-PS02: Sign-off and handover procedures	PA0201 Complete Access Scaffolding Register after inspection and re- inspection, and issue and sign-off Scaffolding Register in accordance with safety legislation requirements	AK0204 Access scaffold documentation and signage AK0205 Drawings and other specifications AK0206 Inspection Register and Access Scaffold Register	**E3**
		PA0202 Interpret drawings and design specifications		
		PA0203 Conduct handover procedures		

651501000-PM-09,Work with fibre rope, make a steel wire rope specimen, NQF Level 2, Credits 8	**9.2.1. PM-09-PS01: Identify and select fibre ropes**	PA0101Identify and select the different types of ropes PA0102 Measure and calculate the diameter circumference and lay length of Manila ropes PA0103 Coil and uncoil Manila and steel wire ropes without kinks or damage PA0104 Make-up twine PA0105 Perform all activities safely	AK0101Types of ropes (including range of natural and synthetic fibres, polypropylene, nylon, cotton, polyester; vegetable fibres [Manila, sisal, hemp, coir and cotton, jute]; twines [spun yarn, marline]) AK0102 Construction, size, diameter size, circumference, rope lay, rope lay length, vernier calliper, rope diameter tape AK0103 Care and storage of ropes	**F1**
	PM-09-PS02: Work with fibre ropes	PA0201Identify and select the different types of fibre ropes using charts and calculations PA0202Inspect fibre ropes PA0203 Tie knots with ropes PA0204 Tie bends with ropes PA0205 Tie hitches with ropes	AK0201 Types of ropes (including range of natural and synthetic fibres, polypropylene, nylon,cotton, polyester; vegetable fibres [Manila, sisal, hemp, coir and cotton, jute]; twines [spun yarn, marline]) AK0202 Types of knots (reef, single, figure-eight, overhead, catspaw, sheepshank, bowline [double bowline; running bowline; bowline on a bight;, mousing of a hook]) AK0203 Types of hitches (black wall, double black, timber and half,	**F2** **F2**

		PA0206 Tie lashings	timber and two half, round turn and two half hitches, clove, rolling, slippery, scaffold, marline spike, basket, noose and halter, Becket hitch, triple sliding, inverted basket, snubber toggle, choler or anchor, stone-dog, double anchor) AK0204 Types of bends (carrick, double carrick, hawser, sheet, fisherman's; single sheet, double sheet AK0205 Permanent finishes to fibre rope ends (soft eye, hawser eye, thimble eye, Becket, bollard eye) AK0206 Charts and calculations AK0207Types of lashings (square, shears, block)	
		PA0207 Attach permanent finishes to rope ends		
		PA0208 Store fibre ropes		
		PA0209 Perform all activities safely		
	PM-09-PS03: Perform a range of splices on a Manila rope	PA0301 Plan and prepare for splicing activities	AK0301Risks and hazards associated with splicing AK0302 PPE (hand gloves, safety boots, overalls, hard hats and safety specs) AK0303 Reasons for splicing AK0304Types of splices (back splice, eye splice, long splice, soft eye splice, thimble eye splice)	**F3**
		PA0302 Organise and assemble resources for the task		
		PA0303 Select and perform pre-operational checks on splicing equipment		
		PA0304 Prepare worksite, remove obstructions and notify other personnel about the task		**F3**

		PA0305 Identify and mitigate hazards and risks PA0306 Use appropriate PPE PA0307 Use calculations to determine length of splice and rope PA0308 Splice a Manila grommet PA0309 Splice a soft eye in a Manila rope PA0310 Perform a short splice in a Manila rope PA0311 Splice a long splice in a Manila rope PA0312 Splice a thimble in a Manila rope PA0313 Dress the splices	AK0305 Types of rope (Manila rope or fibre rope) AK0306Terminology (tuck, seizing, whipping, two-pointed, three-pointed and six pointed grommets, tail) AK0307 Techniques to perform splices AK0308 Housekeeping activities	
	PM-09-PS04: Whip and seize fibre ropes	PA0401 Identify and select the different types of ropes PA0402 Perform Common whipping PA0403 Perform West Country whipping PA0404 Perform American whipping PA0405 Perform Sailmaker's whipping PA0406 Seize a rope larger than 25mm in diameter	AK0401 Types of ropes AK0402 Types of whipping (Common whipping; West Country whipping; American whipping; Sailmakers whipping) AK0403Reasons for whipping AK0404Types of seizing AK0405Use of recommended chart	**F3**

		PA0407 Seize a rope less than 25mm in diameter		
		PA0408 Perform all activities safely		
	PM-09-PS05: Reeve a rope on a block and tackle	PA0501 Identify blocks and select the different types of ropes	AK0501 Types of blocks and tackles (crane and hook blocks, wire rope blocks, snatch blocks, tackle blocks and their respective fittings) AK0502 Concepts of working load and mechanical advantage AK0503 Table (chart) showing multiplication factors for snatch block loads AK0504 12 rules for reeving AK0505 Two-part, three-part, four-part, five-part, six-part, seven-part and eight-part falls	**F4**
		PA0502 Follow the 12 general rules for reeving blocks		
		PA0503 Calculate the load on the block, hook and anchorage points for different angles (when using snatch blocks)		
		PA0503 Reeve two-part falls with either Manila or steel wire rope and calculate mechanical the advantages		
		PA0504 Reeve three-part falls with either Manila or steel wire rope and calculate mechanical advantages		**F4**
		PA0505 Reeve four-part falls with either Manila or steel wire rope and calculate mechanical advantages		
		PA0506 Reeve five-part falls with either Manila or steel wire rope and calculate mechanical the advantages		
		PA0507 Reeve six-part falls with either Manila or steel wire rope and calculate mechanical advantages		

		PA0508 Reeve seven-part falls with either Manila or steel wire rope and calculate mechanical advantages		
		PA0509 Reeve eight part falls with either Manila or steel wire rope and calculate mechanical advantages		
		PA0510 Work safely		
	PM-09-PS06: Make a steel wire rope specimen for destructive testing purposes	PA0601 Prepare for making steel rope specimen	AK0601 Risks and hazards for making a steel rope specimen procedures (permission, tools, material and equipment, examination of worksite) AK0604 Method of making steel wire rope specimen using serving wire or stainless steel strapping AK0605 Specimen chart AK0606 Housekeeping activities AK0607First and final stage specimen	**G4**
		PA0602 Use appropriate PPE		
		PA0603 Use appropriate materials, tools and equipment		
		PA0604 Make steel wire rope specimen as per test specimen chart		
		PA0605 Identify and mitigate hazards		
		PA0606 Perform all activities safely		
		PA0607 Conduct appropriate housekeeping activities		
	PM-09-PS07: Care and	PA0701 Prepare to lubricate steel wire ropes	AK0701Lubricating equipment	

	maintain steel wire ropes	PA0702 Identify steel wire rope to be lubricated PA0703 Use appropriate PPE PA0704 Identify hazards an mitigate them PA0705 Lubricate steel wire ropes using different methods and appropriate equipment PA0706 Store steel wire ropes and lubrication according to manufacturer's specifications PA0707 Complete housekeeping activities PA0708 Perform all activities safely	AK0702Types of steel wire ropes AK0703Safety equipment (including PPE) and requirements AK0704 Hazards and mitigation thereof AK0705Lubrication methods	**G3**
651501000-PM-10, Work with steel wire ropes, NQF Level 3, Credits 9	**PM-10-PS01: Identify steel wire ropes and perform measurements**	PA0101 Identify the different types of steel wire ropes and their cores PA0102 Identify classification and configurations of steel wire ropes PA0103 Measure and calculate the diameter, the circumference, lay length and steel wire rope safety factors PA0104 Calculate bending radius of steel wire ropes PA0105 Perform all activities safely	AK0101 Construction types of steel wire ropes AK0102 Lay types of steel wire ropes AK0103 Core types of steel wire ropes AK0104 Elongation of steel wire ropes AK0105 Characteristics of steel wire ropes	**G1** **G1**

	PM-10-PS02: Work with steel wire ropes	PA0201 Select steel ropes	AK0201Types of steel wire ropes (includes regular lay ropes [6 X 36F], different lays (non-spin, galvanised and steel wire ropes, flat-wire) AK0202 Selection of steel ropes (scope of work; load capacity and Working Load Limit (WLL) of the equipment; pre-operational checks; application) AK0203 Steel wire rope inspection (SANS 4309), certification and retirement (visual inspection, glossy or glazed areas, discolouration, inconsistent diameter, inconsistent texture, residual strength, broken wires, worn and abraded wires, reduction in rope diameter, insufficient lubrication, snagged wires from drum crushing, rope jammed after jumping off sheave, rope stretch, corrosion, crushed, flattened or jammed strands, high stranding and unlaying, bird caging, kinks, core protrusion, electrical contact, unbalanced severely worn areas, pitting, damaged or inadequate splices, gaps between	**G1**
		PA0202 Inspect steel wire ropes for serviceability		**G1**
		PA0203 Ensure that steel wire rope has been certified		
		PA0204 Coil and uncoil steel wire ropes without kinks or damage		

		PA0205 Store steel ropes using appropriate methods	strands, heat damaged wires)) causes of steel wire rope faults) AK0204 Coiling and uncoiling procedures for steel wire ropes AK0205 Storing of steel ropes AK0206 Safety requirements	
		PA0206 Perform all activities safely		
	PM-10-PS03: Perform a range of splices on a steel wire rope	PA0301 Plan and prepare for splicing activities		**G2**
		PA0302 Organise and assemble resources for the task		**G2**
		PA0303 Select and perform pre-operational checks on splicing equipment		
		PA0304 Prepare worksite, remove obstructions and notify other personnel about the task		
		PA0305 Identify and mitigate hazards and risks		
		PA0306 Use appropriate PPE		**G2**
		PA0307 Use formulae for splicing, where appropriate		
		PA0308 Use calculations to determine length of rope needed as above		

		PA0309 Splice a non-spin wire rope PA0310 Splice a soft eye in a steel wire rope using the admiralty method PA0316 Use two methods to make a long splice in two steel ropes PA0317 Splice a steel wire rope using the Liverpool method PA0318 Splice a thimble into a wire rope PA0319 Splice a grommet PA0320 Splice Flemish eye splice PA0321 Splice a cut-splice PA0322 Use ferrules and crimp PA0323 Use other splices (clamping types (U-type and double-bolt type) PA0324 Dress the splices PA0325 Perform all activities safely PA0326 Conduct appropriate housekeeping activities		
	PM-10-PS04: Worm, parcel	PA0401 Worm a rope	AK0401 Procedures to worm, parcel and serve ropes	

	and serve a steel wire rope	PA0402 Parcel a rope PA0404 Serve a rope PA0405 Perform all activities safely	AK0402 Reasons for worming, parcelling and serving AK0403 Safety requirements	**G1**
	PM-10-PS05: Terminate a steel wire rope by means of capping	PA0501 Prepare to terminate a steel wire rope by means of resin or white metal capping PA0502 Use appropriate PPE PA0503 Identify hazards an mitigate them PA0504 Terminate a steel wire rope using resin capping PA0505 Terminate a steel wire rope using white metal methods PA0506 Complete housekeeping activities PA0507 Perform all activities safely	AK0501 Equipment to terminate a steel wire rope by means of resin capping AK0502 Safety equipment (including PPE) and requirements AK0503 Hazards and mitigation thereof AK0504 Resin capping procedure AK0505 Capping with white metal	**H2**
	PM-10-PS06: Connect end fittings	PA0601 Prepare to connect end fittings PA0602 Identify appropriate end fitting for type and size of wire or cable PA0603 Use installation method appropriate to identified end fitting	AK0601 Types of end fittings (helical terminations, swage sockets, spelter sockets, rope clips, wedge sockets) AK0602 Methods of installing end fittings	**G5** **G5**

		PA0604 Use tools and equipment to complete installation of an end fitting PA0605 Use appropriate PPE PA0606 Identify hazards and mitigate them PA0607 Complete housekeeping activities PA0608 Perform all activities safely	AK0603 Safety requirements (including PPE) AK0604 Hazards and mitigation thereof	
651501000-PM-11, Work with winder ropes and sheave wheel, NQF Level 4, Credits 9	**PM-11-PS01: Examine a winder rope**	PA0101 Prepare to examine winder rope PA0102 Identify hazards associated with winder rope examination PA0103 Prepare winder rope for examination PA0104 Examine the condition of a winder rope at various intervals PA0105 Measure a winder rope at various intervals PA0106 Calculate rope factor of safety and capacity factor for both vertical and inclined shafts	AK0101 Condition assessment of steel wire ropes on mine winders (discard criteria) AK0102 Criteria with respect to broken wires, changes in diameter and lay length, effects of corrosion and distortion of winding ropes AK0103 Preparations for winder rope examination (PPE, tools, materials, equipment, logbook entries) AK0104 Examination of winder rope includes (cleaning the area to be examined, observe wear patterns, wear rate, wire breakage, corrosion) AK0105 Lay length, diameter and calculate circumference	**H1** **H1**

		PA0107 Communicate and warn the winding engine driver PA0108 Record examination, date and time in winding engine driver's logbook PA0109 Conduct post examination procedures	AK0106 Calculations on rope factor of safety and capacity factor for both vertical and inclined shafts AK0107 Communication methods	
	PM-11-PS02: Examine a safety detaching hook	PA0201 Make an entry and sign winding engine driver's logbook before inspection PA0202 Examine copper shearing pin to ensure it moves freely PA0203 Check each component for cracks or damage PA0204 Examine pins, split pins and nuts for wear and slackness PA0205 Inspect drawbar connection to the top of the conveyance transom PA0206 Inspect the rope connection at the end termination PA0207 Check lubrication on the hook body PA0208 Check hook operation during an overwind condition	AK0201 Safety detaching hook and its components (resin socket) AK0202 Inspection procedures AK0203 Administrative procedures (signing in winding engine driver's logbook) AK0204 Legal requirements AK0205 Safety procedures	**H1** **H1**

		PA0209 Sign winding engine driver's logbook after inspection		
	PM-11-PS03: Replace a winder rope	PA0301 Prepare to replace winder rope	AK0301 Preparations for winder rope replacement (PPE, tools, materials, equipment, logbook entries) AK0302 Winder rope replacement procedures AK0303 Winder rope testing procedures AK0304 Communication methods AK0305 Hazards and risks associated with winder rope replacement AK0306 Roles of team members	**H2**
		PA0302 Identify hazards associated with wi rope replacement		
		PA0303 Communicate with and warn the winding engine driver of the work about to take place and agree to special signalling arrangements		
		PA0304 Record the examination date and time in the winding engine driver logbook		**H2**
		PA0305 Replace a winder rope as per procedure		
		PA0306 Communicate with team (fitter and electrician, shaft personnel)		
		PA0308 Record details of the work done, date and time in logbook		
		PA0309 Conduct post replacement procedures		
	PM-11-PS04: Terminate and secure the back-end of a winder rope	PA0401 Prepare to terminate and secure the back-end of a winder rope	AK0401 Hazards associated with terminating and securing the back-end of a winder rope	**H2**
		PA0402 Identify hazards associated with terminating and securing the back-end of a winder rope and mitigate them		

			AK0402 Procedures to terminate and secure the back-end of a winder rope AK0403 Safety requirements	
		PA0403 Terminate and secure the back-end of a winder rope around the winder drum shaft by means of a clove hitch and rope clamps		
		PA0404 Conduct post operational procedures		
	PM-11-PS05: Terminate and secure a front-end wire lock poured socket on a winder rope	PA0501 Measure and cut the front-end of a winder rope	AK0501 Hazards associated with terminating and pouring of a winder rope front-end socket AK0502 Procedures to cut, terminate and conduct resin capping on the front-end of a winder rope AK0503 Safety requirements	**H2** **H5**
		PA0502 Prepare to conduct a resin socket termination on the front-end of a winder rope		
		PA0503 Identify hazards associated with terminating and securing the front-end of a winder rope and mitigate them		
		PA0504 Identify hazards associated with mixing and pouring resin into the rope socket of winder rope front-end termination and mitigate them		
		PA0505 Mix and pour resin into the rope socket of winder rope front-end termination according to procedure		
		PA0506 Conduct post-operational procedures		

	PM-11-PS06: Replace a sheave wheel	PA0601 Prepare to replace a sheave wheel	AK0601Lifting equipment (maximum lifting capacity of equipment) AK0602 Slinging equipment and methods AK0603 Load parameters (mass and type of load; load-size, shape, weight, height) AK0604 Pre-operational checks on all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0605 Standard formulas for calculation of mass of final loads in the hook AK0606 Hazards (power lines, telephone cables, bridge structures, buildings) AK0607 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.)	**H3**
		PA0602 Identify and mitigate hazards and risks		**H3**
		PA0603 Evaluate environmental conditions		**H3**
		PA0604 Organise and assemble resources for the task		
		PA0605 Select and perform pre-operational checks on lifting equipment		
		PA0606 Select appropriate mobile crane in accordance with load chart for that crane		

		PA0607 Prepare worksite, remove obstructions and notify other personnel about the task	AK0608 Drawings/sketches AK0609 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0610Communication methods AK0611 Isolation (de-energise), demarcations and lock-out procedures AK0612 Problem-solving during sheave wheel removal AK0613 Care for and storage of slinging and lifting equipment AK0614 Rotation of sheave wheel bearings during storage to ensure lubrication	
		PA0608 Complete isolation, demarcations and lockout procedures		
		PA0609 Remove sheave wheel as per procedure		
		PA0610 Replace a sheave wheel as per procedure		
		PA0611 Communicate with relevant personnel		
651501000-PM-12, Sling, lift and secure loads for transportation, NQF Level 2, Credits 13	**PM-12-PS01: Sling regular loads (up to 3 tons)**	PA0101Read and interpret drawings/sketches	AK0101 Slinging equipment (wire rope, chains, slings, web belts, turn buckles, shackles, eyebolts, lifting beams, spreader bars, lifting devices, natural, synthetic, and web slings) AK0102 Determination of weight of the load AK0103 Slinging methods/techniques and balancing techniques AK0104 Types of knots AK0105 Packing and dunnage	**I1** **I1**
		PA0102 Determine the weight of the load		
		PA0103 Identify and mitigate hazards and risks and select appropriate PPE		
		PA0104 Evaluate environmental conditions		
		PA0105 Organise and assemble human and physical resources for slinging regular loads		
		PA0106 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		

	PM-12-PS02: Shift loads on an inclination using lifting equipment (for loads of not		AK0106 Communication methods AK0107 Safe working practices AK0108 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, etc.) AK0109 Load and structural design specifications AK0110 Problem-solving during slinging AK0111 Care for and storage of slinging equipment	**I2** **I2**
		PA0107 Complete isolation, demarcations and lockout procedures		
		PA0108 Identify, select and inspect slinging equipment		
		PA0109 Determine centre of gravity (CoG)		
		PA0110 Sling and balance load with or without lugs		
		PA0111 Check working clearances timeously and safely		
		PA0112 Direct lifting operations		
		PA0113 Resolve problems that occur while slinging		
		PA0114 Conduct post-slinging housekeeping activities		
		PA0115 Care for and store slinging equipment		
		PA0116 Conduct all slinging operations safely		
		PA0201 Read and interpret drawings/sketches PA0202 Determine the weight of the load		

	more than 3 tons)	PA0203 Identify and mitigate hazards and risks and select appropriate PPE		
		PA0204 Evaluate environmental conditions		
		PA0205 Organise and assemble human and physical resources for shifting loads on an inclination using lifting equipment (up to 3 tons)		
		PA0206 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0207 Complete isolation, demarcations and lockout procedures		
		PA0208 Secure load and verify inclination		
		PA0209 Communicate with relevant personnel in the performance of the task		
		PA0210Lift and shift load in accordance with standard operating procedures and safe work practices		
		PA0211 Inspect load for damage at its end position and secure it		
		PA0212 Dismantle and inspect lifting equipment		

		PA0213 Care for and store lifting equipment		
		PA0214 Perform all work safely		
	PM-12-PS03: Lift and move a load using manual lifting equipment and tackle	PA0301Read and interpret drawings/sketches	AK0301 Manual lifting equipment and tackle (maximum lifting capacity of equipment) AK0302 Load parameters (mass and type of load; load-size, shape, weight, height) AK0303 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0304 Slinging equipment and methods AK0305 Standard formulas for calculation of mass of final loads in the hook AK0306 Hazards (power lines, telephone cables, bridge structures, buildings) AK0307 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground	
		PA0302 Determine the weight of the load		
		PA0303 Identify and mitigate hazards and risks and select appropriate PPE		**I1**
		PA0304 Evaluate environmental conditions		
		PA0305 Organise and assemble human and physical resources for lifting and moving a load using manual lifting equipment and tackle		
		PA0306 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		**I1**
		PA0307 Complete isolation, demarcations and lockout procedures		
		PA0308 Select and inspect manual lifting equipment and tackle		

		PA0309 Prepare worksite, remove obstructions and notify other personnel about the task PA0312 Complete isolation, demarcations and lockout procedures, if applicable PA0311 Use manual lifting equipment to lift and move the load PA0312 Inspect load for damage at its end position and secure it PA0313 Communicate with relevant personnel in the performance of the task PA0314 Dismantle and inspect lifting equipment PA0315 Care for and store lifting equipment PA0316 Perform all work safely	services, ground stability, water tables] etc.) AK0308 Drawings/sketches AK0309 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0312Communication methods AK0311 Isolation (de-energise), demarcations and lock-out procedures AK0312 Load and structural design specifications AK0313 Problem-solving during lifting operation AK0314 Care for and storage of slinging and lifting equipment	
	PM-12-PS04: Direct crane operations	PA0401 Prepare to direct crane operations PA0402 Identify and use appropriate PPE PA0403 Select and use signalling devices	AK0401Types of cranes and their application cab-controlled overhead cranes, pendant-controlled overhead cranes, gantry cranes) AK0402 Hazards and risks pertaining to the crane directing process	**I4**

		PA0404 Identify workplace hazards and associated risks PA0405 Direct crane operations PA0406 Adhere to safety requirements	AK0403 Specified symbolic signs pertaining to the crane operating area AK0404 Communication methods hand signals AK0405 PPE AK0406 Signalling equipment AK0407 Safety requirements	
	PM-12-PS05: Lift, place and secure loads for transportation	PA0501Read and interpret drawings/sketches PA0502 Determine the weight of the load PA0503 Identify and mitigate hazards and risks and select appropriate PPE PA0504 Evaluate environmental conditions PA0505 Organise and assemble human and physical resources for lifting, placing and securing loads for transportation PA0506 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task	AK0501 Lifting equipment (maximum lifting capacity of equipment) AK0502 Slinging equipment and methods AK0503 Load parameters (mass and type of load; load-size, shape, weight, height) AK0504 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0505 Standard formulas for calculation of mass of final loads in the hook AK0506 Hazards (power lines, telephone cables, bridge structures, buildings) AK0507 Environmental conditions and safety measures (wind conditions, tidal conditions, final	**I5** **I5** **I5**

		PA0507 Complete isolation, demarcations and lockout procedures, if applicable	resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0508 Drawings/sketches AK0509 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0510 Communication methods AK0511 Isolation (de-energise), demarcations and lock-out procedures AK0512 Planning and preparation to secure loads (equipment to secure, support materials, applicable documentation [driver's licence, risk assessment, permit to work]; transport vehicle; lifting space; pre-operational checks) AK0513 Types of vehicles for transportation AK0514 Methods of lifting, loading and positioning AK0515 Securing methods AK0516Types of cargoes (timber and log, metal, cylindrical containers, boxes, sacks, metal, normal and abnormal; regular and irregular etc.) AK0517 Chocking and chocking sizes AK0518 Problem-solving during lifting, positioning and securing a load	**I5**
		PA0508 Lift and position load onto vehicle, and ensure weight distribution in terms of planned arrangement		
		PA0509 Communicate with relevant personnel in the performance of the task		
		PA0510 Inspect load for damage at its end position and secure load to ensure safe transportation		
		PA0511 Dismantle and inspect lifting equipment		
		PA0512 Care for and store lifting equipment		
		PA0513 Conduct all operations according to safety requirements		

			AK0519 Care for and storage of slinging and lifting equipment	
	PM-12-PS06: Place and move a load using rollers or sliders	PA0601 Read and interpret drawings/sketches	AK0601Lifting equipment (including rollers and sliders, maximum lifting capacity of equipment) AK0602Slingin g equipment and methods AK0603Load parameters (mass and type of load; load-size, shape, weight, height) AK0604 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0605 Standard formulas for calculation of mass of final loads in the hook AK0606 Hazards (power lines, telephone cables, bridge structures, buildings) AK0607 Environmental conditions and safety measures (wind	
		PA0602 Determine the weight of the load		**I2**
		PA0603 Identify and mitigate hazards and risks and select appropriate PPE		
		PA0604 Evaluate environmental conditions		
		PA0605 Organise and assemble human and physical resources for placing and moving a load using rollers and sliders		**I2**
		PA0606 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0607 Complete isolation, demarcations and lockout procedures		
		PA0608 Select and perform pre-operational checks on rollers and sliders		**I2**
		PA0609 Prepare worksite, remove obstructions and notify other personnel about the task		

		PA0610 Complete isolation, demarcations and lockout procedures, if applicable PA0611 Lift a load onto rollers or sliders PA0612 Move a load using rollers and sliders in accordance with procedures and safe work practices PA0613 Communicate with relevant personnel in the performance of the task PA0614 Inspect load for damage at its end position and secure it PA0615 Dismantle and inspect lifting equipment PA0616 Care for and store rollers and sliders PA0617 Perform all work safely	conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0608 Drawings/sketches AK0609Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0612Communication methods AK0611 Isolation (de-energise), demarcations and lock-out procedures AK0613Problem-solving during lifting and moving a load AK0614 Care for and storage of slinging and lifting equipment	
	PM-12-PS07: Identify and inspect manual lifting equipment and tackle	PA0701 Identify and inspect lifting tackles and their components PA0702 Identify and inspect tackle systems and their components PA0703 Identify and inspect hand-power lifting devices and their components PA0704 Identify and inspect different types of reeve blocks	AK0701 Lifting tackles AK0702 Tackle systems AK0703 Hand-power lifting devices AK0704 Reeve blocks, anchors, guy lines, deadmen	**B2** **B2**

		PA0705 Identify and inspect different types of anchors		
		PA0706 Identify and inspect different types of deadmen		
		PA0707 Identify and inspect guy lines		
		PA0708 Identify and inspect manual lifting equipment and tackle and state their purposes		
		PA0709 State the hazards associated with manual lifting equipment and ways of mitigating them		
651501000-PM-13, Sling complex loads and use intermediate lifting methods to lift loads, NQF Level 3, Credits 26	**PM-13-PS01: Sling complex loads**	PA0101 Determine the weight of complex loads	AK0101 Characteristics of a complex load (unequal weight distribution, eccentric loading, irregular shape and proportions, with or without set lifting points) AK0102 Load parameters (mass and type of load; load-size, shape, weight, height) AK0103 Slinging equipment (wire rope, chains, slings, web belts, turn buckles, shackles and eyebolts, lifting beams, spreader beams/bars, lifting devices, slings including	**I2**
		PA0102 Determine the slinging method and plan and prepare to sling regular		
		PA0103 Organise and assemble resources for the task		
		PA0104 Select and perform visual inspection on slinging equipment		**I2**

		PA0105 Prepare worksite, remove obstructions and notify other personnel about the task	natural, synthetic and wire ropes, and web slings) AK0104 Slinging techniques AK0105 Types of knots AK0106 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0107 Standard formulas for calculation of mass of final loads in the hook AK0108 Hazards (power lines, telephone cables, bridge structures, buildings) AK0109 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0110 Drawings/sketches AK0111 Packing dunnage	**I2**
		PA0106 Identify and mitigate hazards and risks especially the impact of factors affecting the safe operation of the crane		
		PA0107 Evaluate environmental conditions		
		PA0108 Complete isolation, demarcations and lockout procedures		
		PA0109 Determine centre of gravity (CoG)		
		PA0110 Prepare complex loads		
		PA0111 Tie appropriate knots		
		PA0112 Sling and lift complex loads safely		
		PA0113 Direct lifting operations		
		PA0114 Resolve problems that occur while slinging		
		PA0115 Conduct post-slinging housekeeping activities		
		PA0116 Care for and store slinging equipment		

		PA0117 Conduct all slinging operations safely	AK0112 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0113 Communication methods AK0114 Isolation (de-energise), demarcations and lock-out procedures AK0115 Problem-solving during slinging a complex load AK0116 Care for and storage of slinging and lifting equipment	
	PM-13-PS02: Lift, move and manoeuvre a load using mechanical lifting equipment (up to 5 tons)	PA0201 Read and interpret drawings/sketches PA0202 Determine the weight of the load PA0203 Identify and mitigate hazards and risks and select appropriate PPE PA0205 PA0204 Evaluate environmental conditions Organise and assemble human and physical resources for lifting, moving and manoeuvring a load using mechanical lifting equipment (up to 5 tons)	AK0201 Mechanical lifting equipment (maximum lifting capacity of equipment) AK0202 Slinging equipment and methods AK0203 Load parameters (mass and type of load; load-size, shape, weight, height) AK0204 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration	**I2** **I2** **I2**

		PA0206 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task PA0207 Complete isolation, demarcations and lockout procedures, if applicable PA0208 Select and perform visual inspections on lifting equipment PA0209 Lift, move and manoeuvre a load using mechanical lifting equipment PA0210 Communicate with relevant personnel in the performance of the task PA0211Inspect load for damage at its end position and secure it PA0212 Inspect lifting equipment PA0213 Care for and store lifting equipment PA0214 Perform all work safely	of welds and splices, current load test certificate) AK0205 Standard formulas for calculation of mass of final loads in the hook AK0206 Hazards (power lines, telephone cables, bridge structures, buildings) AK0207 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0208 Drawings/sketches AK0209 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0210 Communication methods AK0211 Isolation (de-energise), demarcations and lock-out procedures AK0213 Problem-solving during lifting and moving a load AK0214 Care for and storage of slinging and lifting equipment	

	PM-13-PS03:Lift loads using the floating method	PA0301 Read and interpret drawings/sketches	AK0301Floating methods (advantages and disadvantages of different floating methods) AK0302 Lifting machinery and equipment for floating method (chain blocks; lever hoists; airhoists; winches; derricks, slings, rope, shackles, eye bolts, spreader and equalising beams, clamps, pulley systems, pull lifts, jacks, sliding shoes, rollers, tirfors) and may include the use of various types of cranes; maximum lifting capacity of lifting equipment) AK0303 Slinging equipment and methods AK0304 Load parameters (mass and type of load; load-size, shape, weight, height) AK0305 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0306 Standard formulas for calculation of mass of final loads in the hook	
		PA0302 Determine the weight of the load		**I7**
		PA0303 Identify and mitigate hazards and risks and select appropriate PPE		**I7**
		PA0304 Evaluate environmental conditions		**I7**
		PA0305 Organise and assemble human and physical resources for lifting loads using the floating method		
		PA0306 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		

		PA0307 Complete isolation, demarcations and lockout procedures, if applicable PA0308 Select and perform visual inspections on lifting equipment PA0309 Use lifting equipment to float the load PA0310 Communicate with relevant personnel in the performance of the task PA0311 Inspect load for damage at its end position and secure it PA0312 Care for and store lifting equipment PA0313 Perform all work safely	AK0307 Hazards (power lines, telephone cables, bridge structures, buildings) AK0308 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0309 Drawings/sketches AK0307 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0308 Communication methods AK0309 Isolation (de-energise), demarcations and lock-out procedures AK0310 Problem-solving during lifting a load using the floating method AK0311 Care for and storage of slinging and lifting equipment	
	PM-13-PS04: Lift and turn a load	PA0401 Read and interpret drawings/sketches PA0402 Determine the weight of the load	AK0401 Manual lifting equipment and tackle (maximum lifting capacity of equipment)	**I7**

		PA0403 Identify and mitigate hazards and risks and select appropriate PPE PA0404 Evaluate environmental conditions PA0405 Organise and assemble human and physical resources for lifting and turning loads	AK0402 Slinging equipment and methods AK0403 Method/s to lift and turn a load AK0404 Load parameters (mass and type of load; load-size, shape, weight, height) AK0405 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0406 Standard formulas for calculation of mass of final loads in the hook AK0407 Hazards (power lines, telephone cables, bridge structures, buildings) AK0408 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0409 rawings/sketches	
		PA0406 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0407 Complete isolation, demarcations and lockout procedures, if applicable		
		PA0408 Select and perform visual inspections on lifting equipment		
		PA0409 Use lifting equipment and tools to lift and turn the load in line with work instructions and drawings		**I7**
		PA0410 Communicate with relevant personnel in the performance of the task		

		PA0411 Inspect load for damage at its end position and secure it PA0412 Care for and store lifting equipment PA0413 Perform all work safely	AK0410 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0411 Communication methods AK0412 Isolation (de-energise), demarcations and lock-out procedures AK0413 Problem-solving during lifting and turning a load	
	PM-13-PS05: Direct lifting operations	PA0501Read and interpret drawings/sketches PA0502 Determine the weight of the load PA0503 Identify and mitigate hazards and risks and select appropriate PPE PA0504 Evaluate environmental conditions PA0505 Organise and assemble human and physical resources for directing lifting operations PA0506 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task	AK0501 Lifting equipment and the maximum lifting capacity of equipment AK0502 Slinging equipment and methods AK0503 Method of guiding/directing the lifting of loads AK0504 Load parameters (mass and type of load; load-size, shape, weight, height) AK0505 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate)	**I4** **I4**

		PA0507 Complete isolation, demarcations and lockout procedures, if applicable	AK0506 Standard formulas for calculation of mass of final loads in the hook AK0507 Hazards (power lines, telephone cables, bridge structures, buildings) AK0508 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0509 Drawings/sketches AK0510 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0511 Communication methods AK0512 Isolation (de-energise), demarcations and lock-out procedures AK0513 Problem-solving during directing lifting operations AK0514 Care for and storage of slinging and lifting equipment	**I4**
		PA0508 Select and perform visual inspections on lifting equipment		
		PA0509 Verify levels and set out alignments of structures against drawing specifications		
		PA0510 Select materials used for fixing, anchoring, bracing, supporting and securing		
		PA0511 Inspect load connections		
		PA0512 Guide lifted loads, and position and secure them		
		PA0513 Maintain the stability of loads during lifting, positioning and securing		
		PA0514 Communicate with relevant personnel in the performance of the task		
		PA0515 Inspect load for damage at its end position and secure it		
		PA0516 Inspect lifting equipment		
		PA0517 Care for and store lifting equipment		
		PA0518 Perform all work safely		

	PM-13-PS06: Identify and inspect lifting machines and their components	PA0601 Identify the different types and classes of lifting machines PA0602 Point out the different systems and components of lifting machines and describe their functions PA0603 Identify the different instruments, levers and controls and describe their functions PA0604 Inspect lifting machines PA0605 Identify non-compliance PA0606 Identify defects PA0607 Report defects and non-compliance	AK0601 Types and classes of machines in the lifting machinery environment AK0602 Systems of the lifting machines (braking system, cooling system, hydraulic systems) AK0603 Instruments, levers, controls and safety devices of lifting machines AK0604 Inspection procedures AK0605 Inspection checklists AK0606 Lifting machines and machinery AK0607 Manufacturer's specifications	**I4**
	PM-13-PS07: Lift loads using pick and carry method	PA0701Read and interpret drawings/sketches PA0702 Determine the weight of the load PA0703 Identify and mitigate hazards and risks and select appropriate PPE	AK0701 Lifting equipment (chain blocks; lever hoists; slings, rope, shackles, eye bolts, spreader and equalising beams, clamps; maximum lifting capacity of equipment AK0702 Slinging equipment and methods	**I7** **I7**

		PA0704 Evaluate environmental conditions	AK0703 Method/s to pick and carry a load AK0704 Load parameters (mass and type of load; load-size, shape, weight, height) AK0705 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0706 Standard formulas for calculation of mass of final loads in the hook AK0707 Hazards (power lines, telephone cables, bridge structures, buildings) AK0708 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0709 Drawings/sketches AK0710 Safe working practices (site access, communication and	**I7**
		PA0705 Organise and assemble human and physical resources for lifting loads using pick and carry method		
		PA0706 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0707 Complete isolation, demarcations and lockout procedures, if applicable		
		PA0708 Select and perform visual inspections on lifting equipment		
		PA0709 Lift a load using pick and carry method		
		PA0710 Communicate with relevant personnel in the performance of the task		
		PA0711 Inspect load for damage at its end position and secure it		

		PA100312 Inspect lifting equipment PA100313 Care for and store lifting equipment PA100314 Perform all work safely	signal methods, centre of gravity of load) AK0711Communication methods AK0712Isolation (de-energise), demarcations and lock-out procedures AK0713 Problem-solving during lifting and moving a load AK0714 Care for and storage of slinging and lifting equipment	
	PM-13-PS08: Re-rail rail-bound equipment	PA0801 Read and interpret drawings/sketches PA0802 Determine the weight of the load PA0803 Identify and mitigate hazards and risks and select appropriate PPE PA0804 Evaluate environmental conditions PA0805 Organise and assemble human and physical resources for re-railing rail-bound equipment	AK0801 Lifting equipment AK0802 Method/s to re-rail rail-bound equipment AK0803 Load parameters (mass and type of load; load-size, shape, weight, height) AK0804 Visual inspection of all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0805 Standard formulas for calculation of mass of final loads AK0806 Hazards (power lines, telephone cables, bridge structures, buildings)	**I3** **I3**

		PA0806 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task PA0807 Complete isolation, demarcations and lockout procedures, if applicable PA0808 Select and perform visual inspections on lifting equipment PA0809 Re-rail rail-bound equipment PA0810 Communicate with relevant personnel in the performance of the task PA0811 Inspect lifting equipment PA0812 Care for and store lifting equipment PA0813 Perform all work safely	AK0807 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0808 Drawings/sketches AK0809 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0810 Communication methods AK0811Isolation (de-energise), demarcations and lock-out procedures AK0812 Problem-solving during re-railing a conveyance AK0813 Care for and storage of lifting equipment	**I3**
	PM-13-PS09: Lift loads using temporary construction	PA0901 Read and interpret drawings/sketches PA0902 Determine the weight of the load	AK0901 Lifting equipment (gin poles, tripods, derricks, shears) AK0902 Method/s to erect gin poles, tripods, derricks	**I3**

	lifting methods	PA0903 Identify and mitigate hazards and risks and select appropriate PPE	AK0903 Load parameters (mass and type of load; load-size, shape, weight, height) AK0904 Visual inspection of all lifting equipment (defects, wear) AK0905Standard formulas for calculation of mass of final loads AK0907 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0908 Drawings/sketches AK0909 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0910 Communication methods AK0911 Isolation (de-energise), demarcations and lock-out procedures AK0912 Problem-solving during erecting gin poles, tripods, derricks AK0913 Care for and storage of lifting equipment	
		PA0904 Evaluate environmental conditions		**I3**
		PA0905 Organise and assemble human and physical resources for lifting loads using temporary construction lifting methods		
		PA0906 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0907 Complete isolation, demarcations and lockout procedures, if applicable		
		PA0908 Select and perform visual inspections on lifting equipment		
		PA0909 Lift loads using tripods		
		PA0910 Lift loads using shears A-frame		
		PA0911 Lift loads using boom derricks		
		PA0912 Erect a pole (derrick) to lift and place an R.S.J. cross beam in position across two standing R.S.J. beams check with know		
		PA0913 Communicate with relevant personnel in the performance of the task		
		PA0914 Inspect load for damage at its end position and secure it		**I3**

		PA0915 Inspect lifting equipment PA0916 Care for and store lifting equipment PA0917 Perform all work safely		
651501000-PM-14, Lift loads using advanced lifting methods, NQF Level 4, Credits 38	**PM-14-PS01: Conduct rigging studies**	PA0101 Determine the necessity for undertaking a pre-engineering study PA0102 Plan the rigging study PA0103 Determine and analyse the nature of the rigging task PA0104 Conduct a risk assessment and initiate steps to mitigate the risk factors PA0105 Determine the lifting equipment according to the task given PA0106 Determine the weight of the load PA0107 Determine the slinging method PA0108 Compare the nett lifting capacity to actual weight of the load PA0109 Prepare drawings or sketches	AK0101 Reasons for rigging study AK0102 Components/aspects of a rigging study AK0103 Risk factors AK0104 Method of analysing a rigging task AK0105 Determining the weight of the load and the sling method AK0106 Risk analysis	**C3** **C3**
	PM-14-PS02: Lift loads using the tandem lifting method	PA0201 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of environmental conditions)	AK0201 Types of tandem lifting methods (standard tandem lift, top and tail (trunions and type of slings to be used with trunions); spreader beams, lifting beams)	**I7**

		PA0202 Organise and assemble human and physical resources for lifting loads using the tandem lifting method	AK0202 Slinging equipment and methods AK080103 Lifting machines (crane set-up and control procedures; certificates for lifting machines; crane lifting charts AK0204 Load parameters (mass and type of load; load-size, shape, weight, height) AK0205 Pre-operational checks on all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0206 Standard formulas for calculation of mass of final loads in the hook AK0207 Hazards (power lines, telephone cables, bridge structures, buildings) AK0208 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground	**I7**
		PA0203 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0204 Complete isolation, demarcations and lockout procedures, if applicable		
		PA0205 Select and perform visual inspection on slinging and lifting equipment		
		PA0206 Determine the lifting performance of cranes using crane lifting charts		
		PA0207 Identify appropriate locations for placement of lifting equipment (cranes)		
		PA0208 Obtain certificates for lifting machines		

		PA0209 Check the operator's competence and authorisation to operate a crane and check that cranes have been inspected PA0210 Implement techniques and procedures for calculating levels and setting out alignments of structures PA0211 Lift loads using the tandem lifting method PA0212 Communicate with relevant personnel in the performance of the task PA0213 Inspect load for damage at its end position and secure load PA0214 Inspect, care for and store lifting equipment PA0215 Perform all work safely	conditions [location of underground services, ground stability, water tables] etc.) AK0209 Drawings/sketches AK0210 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0211 Communication methods AK0212 Isolation (de-energise), demarcations and lock-out procedures AK0213 Levels, setting out alignments of structures, ground conditions and overhead structures AK0214 Preparation of the erection site for crane operation AK0215 Communication methods AK0216 Problem-solving during tandem lifting AK0217 Care for and storage of slinging and lifting equipment AK0218 Rigging study	**I7** **I7**
	PM-14-PS03: Transfer loads	PA0301 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of	AK0301 Rigging study	

	between lifting equipment	environmental conditions, identification of crane and checking their lifting performance using load charts)	AK0302 Slinging equipment and methods AK0303 Lifting machines (crane set-up and control procedures; certificates for lifting machines; crane lifting charts) AK0304 Load parameters (mass and type of load; load-size, shape, weight, height) AK0305Pre-operational checks on all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0306 Standard formulas for calculation of mass of final loads in the hook AK0307 Hazards (power lines, telephone cables, bridge structures, buildings) AK0308 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0309 Drawings/sketches	**I7** **I7**
		PA0302 Organise and assemble human and physical resources for transferring a load between lifting equipment		
		PA0303 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0304 Complete isolation, demarcations and lockout procedures, if applicable		
		PA0305 Select and perform visual inspection on slinging and lifting equipment		
		PA0306 Obtain certificates for lifting machines		

		PA0307Check the operator's competence and authorisation to operate a crane and check that cranes have been inspected	AK0310 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0311 Communication methods AK0312 Isolation (de-energise), demarcations and lock-out procedures AK0313 Levels, setting out alignments of structures, ground conditions and overhead structures AK0314 Preparation of the erection site for crane operation AK0315 Communication methods AK0316 Problem-solving during tandem lifting AK0317 Care for and storage of slinging and lifting equipment	**I7**
		PA0308 Implement techniques and procedures for calculating levels and setting out alignments of structures		
		PA0309 Transfer load between lifting equipment		
		PA0310 Communicate with relevant personnel in the performance of the task		
		PA0311 Inspect load for damage at its end position and secure load		
		PA0312 Inspect, care for and store lifting equipment		
		PA0313 Perform all work safely		
	PM-14-PS04: Move a complex load using a winch	PA0401 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of environmental conditions)	AK0401 Lifting equipment (any one of the following types of winches; manual, electrical (AC and DC), diesel engine, pneumatic,	**I2**

		PA0402 Organise and assemble human and physical resources for moving a complex load using a winch PA0403 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task PA0404 Complete isolation, demarcations and lockout procedures, if applicable PA0405 Select and perform visual inspection on slinging and lifting equipment PA0406 Use winch to move a complex load PA0407 Communicate with relevant personnel in the performance of the task PA0408 Inspect load for damage at its end position and secure load PA0409 Inspect, care for and store lifting equipment PA0410 Perform all work safely	hydraulic}; lifting tackle and related equipment) AK0402 Complex loads AK0403 Slinging equipment and methods AK0404 Load parameters (mass and type of load; load-size, shape, weight, height) AK0405 Pre-operational checks on all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0406 Standard formulas for calculation of mass of final loads in the hook AK0407 Hazards (power lines, telephone cables, bridge structures, buildings) AK0408 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0409 Drawings/sketches AK0410 Safe working practices (site access, communication and	**I2**

			signal methods, centre of gravity of load) AK0411 Communication methods AK0412 Isolation (de-energise), demarcations and lock-out procedures AK0413 Problem-solving during lifting and moving a load AK0414 Care for and storage of slinging and lifting equipment AK0415 Rigging study	**I2**
	PM-14-PS05: Transfer a load by means of snatching and anchoring	PA0501 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of environmental conditions) PA0502 Organise and assemble human and physical resources for transferring a load by means of snatching and anchoring PA0503 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task	AK0501 Lifting equipment (maximum lifting capacity of equipment) AK0502 Lifting methods for transferring a load by means of snatching and anchoring AK0503 Slinging equipment and methods AK0504 Load parameters (mass and type of load; load-size, shape, weight, height) AK0505 Visual inspection on all lifting equipment (defects: wear,	**I3** **I3**

		PA0504 Complete isolation, demarcations and lockout procedures, if applicable	corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0506 Standard formulas for calculation of mass of final loads in the hook AK0507 Hazards (power lines, telephone cables, bridge structures, buildings) AK0508Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0509 Drawings/sketches AK0510 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0511 Communication methods AK0512 Isolation (de-energise), demarcations and lock-out procedures AK0513 Problem-solving during transferring load by means of snatching and anchoring AK0514 Care for and storage of slinging and lifting equipment AK0515 Rigging study	**I3**
		PA0505 Select and perform visual inspection on slinging and lifting equipment		
		PA0506 Transfer load by means of snatching and anchoring		
		PA0507 Communicate with relevant personnel in the performance of the task		
		PA0508 Inspect load for damage at its end position		
		PA0509 Inspect lifting equipment		
		PA0510 Care for and store lifting equipment		

	PM-14-PS06: Supervise advanced mobile crane operations and set-up of mobile crane	PA0601 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of environmental conditions, identification of alternative or complementary equipment)	AK0601 Lifting equipment (maximum lifting capacity of equipment) AK0602 Cranes, crane attachments, crane positioning and crane operations AK0603 Factors influencing safety and suitability of a crane (stability, suitability, state of repair. proximity of other machines and workers) AK0604 Alternative or complementary equipment AK0605 Method of supervising crane operation AK0606 Slinging equipment and methods AK0607 Load parameters (mass and type of load; load-size, shape, weight, height) AK0608 Pre-operational checks on all lifting equipment (defects: wear, corrosion, stretched chain links,	**I4** **I4**
		PA0602 Organise and assemble human and physical resources for supervising advanced mobile crane operations and setting-up of mobile crane		
		PA0603 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0604 Complete isolation, demarcations and lockout procedures, if applicable		
		PA0605 Select and perform visual inspection on slinging and lifting equipment		
		PA0606 Communicate with rigging team and other affected parties		
		PA0607 Place crane in optimal position to lift and place loads		

		PA0608 Position personnel assisting with the lift	kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0609 Standard formulas for calculation of mass of final loads in the hook AK0610 Hazards (power lines, telephone cables, bridge structures, buildings) and those associated with mobile crane lifting operations AK0611 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0612 Drawings/sketches AK0613 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0614 Communication methods AK0615 Isolation (de-energise), demarcations and lock-out procedures AK0616 Problem-solving during supervision of crane operation	**I4**
		PA0609 Supervise advance mobile crane operations and complete the lift		
		PA0610 Inspect load for damage at its end position and secure load		
		PA0611 Inspect lifting equipment		
		PA0612 Inspect, care for and store lifting equipment		
		PA0613 Perform all work safely		

			AK0617 Care for and storage of slinging equipment AK0618 Rigging study	
	PM-14-PS07: Remove a tube bundle	PA0701 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of environmental conditions)	AK0701Lifting equipment (maximum lifting capacity of equipment) AK0702 Slinging equipment and methods AK0703 Tube bundle removal procedures K0704 Manufacturer's specifications AK0705 Load parameters (mass and type of load; load-size, shape, weight, height) AK0706 Pre-operational checks on all lifting equipment (defects: wear, corrosion, stretched chain links, kinks, cracks or nicks, deterioration of welds and splices, current load test certificate) AK0707 Standard formulas for calculation of mass of final loads in the hook	**I6**
		PA0702 Organise and assemble human and physical resources for removing a tube bundle		
		PA0703 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task		
		PA0704 Complete isolation, demarcations and lockout procedures, if applicable		
		PA0705 Select and perform visual inspection on slinging and lifting equipment		

		PA0706 Remove tube bundle using appropriate procedure PA0707 Communicate with relevant personnel in the performance of the task PA0708 Inspect care for and store lifting equipment PA0709 Perform all work safely	AK0708 Hazards (power lines, telephone cables, bridge structures, buildings) AK0709 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.) AK0710 Drawings/sketches AK0711 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0712 Communication methods AK0713 Isolation (de-energise), demarcations and lock-out procedures AK0714 Problem-solving during removal of tube bundle AK0715 Care for and storage of slinging and lifting equipment AK0716 Rigging study	**I6**
	PM-14-PS08: Plan and	PA0801 Plan for maintenance	AK0801 Lifting machines and machinery	

	perform maintenance	PA0802 Conduct preparatory steps for maintenance PA0803 Perform basic maintenance PA0804 Perform basic repairs within scope of rigger PA0805 Adhere to safety requirement PA0806 Maintain documentation	AK0802 Maintenance procedures and intervals AK0803 Preparatory procedures for maintenance (the isolation of lifting machinery and the erection of preventative signage and barriers) AK0804 Basic maintenance includes lubrication AK0805 Basic repairs AK0806 Manufacturer's specifications	**B2**
	PM-14-PS09: Perform boom conversion	PA0901 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of environmental conditions) PA0902 Organise and assemble human and physical resources for transferring a load by means of snatching and anchoring PA0903 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task PA0904 Complete isolation, demarcations and lockout procedures, if applicable	AK0901 Lattice boom crane (sizes of cranes to be considered) AK0902 Methods to perform boom conversion (mobile crane to be used to carry the boom sections during the process of boom conversion) AK0903 Pre-operational checks on crane AK0904Hazards and risks AK0905 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground	**I4** **I4**

		PA0905 Inspect the boom sections for any damages before boom conversion PA0906 Perform boom conversion PA0907 Communicate with relevant personnel in the performance of the task PA0908 Inspect, care for and store lifting equipment PA0909 Perform all work safely	services, ground stability, water tables] etc.) AK0906 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK0907 Communication methods (two-way radio or hand signals) AK0908 Isolation (de-energise), demarcations and lock-out procedures AK0909 Problem-solving during boom conversion	**I4**
	PM-14-PS10: Tail a load	PA1001 Conduct a rigging study (including determination of weight of load, hazard identification and mitigation, evaluation of environmental conditions) PA1002 Organise and assemble human and physical resources for transferring a load by means of snatching and anchoring PA1003 Prepare worksite, barricade area of operation, remove obstructions and notify other personnel about the task PA1004 Complete isolation, demarcations and lockout procedures, if applicable	AK1001Cranes AK1002 Methods to tail a load AK1003 Pre-operational checks on cranes AK1004 Hazards and risks associated with tailing a load AK1005 Environmental conditions and safety measures (wind conditions, tidal conditions, final resting place, stability, ground conditions [location of underground services, ground stability, water tables] etc.)	**I7**

		PA1005 Conduct five different tailing operations PA1006 Communicate with relevant personnel in the performance of the task PA1007 Inspect load for damage at its end position and secure it PA1008 Inspect, care for and store lifting equipment PA1009 Perform all work safely	AK1006 Safe working practices (site access, communication and signal methods, centre of gravity of load) AK1007Communication methods AK1008 Isolation (de-energise), demarcations and lock-out procedures AK1009 Problem-solving during tailing a load	**I7**
651501000-PM-15,Perform management-related tasks, NQF Level 4, Credits 5	**PM-15-PS01: Lead a team in a rigger's environment**	PA0101 Allocate roles and responsibilities PA0102 Plan work schedule PA0103 Interact with and brief team members on tasks, equipment and materials required PA0104 Conduct meetings PA0105 Motivate a team PA0106 Ensure the safety of a team (including PPE, safety awareness etc.) PA0107 Ensure that team members are trained and competent	AK0101 Team organisation, team roles and allocation of duties AK0102 Conflict management AK0103 Team member's safety AK0104 Dynamics of team interaction (motivation etc.) AK0105 Meetings for information flow	**A7** **A7**

		PA0108 Manage conflict between team members PA0109 Provide feedback to team members on their work performance PA0110Complete reports/job cards		
	PM-15-PS02: Monitor the application of safety, health and environmental protection procedures	PA0201 Monitor adherence to safe and environmentally friendly work practices by team	AK0201 Safe and environmentally friendly work practices AK0202 Safety, health and environmental reports AK0203 Hazardous materials AK0204 Preventive measures in area of responsibility AK0205 SHEQ\	**A3**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
Workplace Modules			
651501000-WM-01, Processes to implement fall protection plans and install	**WM-01-WE01: Observe and assist a qualified rigger or someone with relevant qualifications in implementing a fall protection plan**	WA0101 Identify hazards and risks and implement adequate control measures to mitigate identified risks WA0102 Inspect, maintain and store all fall protection equipment including proper record keeping WA0103 Identify various types of access methods according to scope of work WA0104 Implement at least 5 fall protection plans for different work areas	**E4**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
lifelines, NQF Level 2, Credits 8	**WM-01-WE02: Implement a fall protection plan under supervision of a qualified rigger or someone with relevant qualifications**	WA0201 Identify hazards and risks and implement adequate control measures to mitigate identified risks	**E4**
		WA0202 inspect, maintain and store all fall protection equipment including proper record keeping	
		WA0203 identify various types of access methods according to scope of work	
		WA0204 Implement at least 5 fall protection plans for different work areas	
	WM-01-WE03: Implement a fall protection plan independently but subject to quality check by a qualified rigger or someone with relevant	WA0301 Identify hazards and risks and implement adequate control measures to mitigate identified risks	**E4**
		WA0302 Inspect, maintain and store all fall protection equipment including proper record keeping	
		WA0303 Identify various types of access methods according to scope of work	
		WA0304 Implement at least 5 fall protection plans for different work areas	
	WM-01-WE04: Observe and assist a qualified rigger or someone with relevant qualifications in	WA0401 Install vertical and horizontal life lines	**E4**
		WA0402 Identify temporary and permanent anchor points	
		WA0403 Perform tasks using a variety of ladders	
	WM-01-WE05: Install life lines under supervision of a qualified rigger or someone with	WA0501 Install vertical and horizontal life lines	**E4**
		WA0502 Identify temporary and permanent anchor points	
		WA0503 Perform tasks using a variety of ladders	
		WA0601 Install vertical and horizontal life lines	**E4**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	WM-01-WE06: Install life lines independently but subject to quality	WA0602 Identify temporary and permanent anchor points	
		WA0603 Perform tasks using a variety of ladders	
651501000-WM-02, Processes to erect and dismantle access scaffolding up to 6m, NQF Level 2, Credits 12	**WM-02-WE01: Observe and assist a qualified and competent person to erect and dismantle access scaffolding up to 6m**	WA0101 Secure work area	**E1**
		WA0102 Assess ground conditions for construction work	
		WA0103 Identify risks and hazards within the work area	
		WA0104 Select PPE and other safety equipment	
		WA0105 Select and use tools, equipment and materials required for scaffold erection	
		WA0106 Erect and dismantle access scaffold as per procedures	
		WA0107 Perform housekeeping and clear site	
		WA0108 Perform all work safely	
	WM-02-WE02: Erect and dismantle access scaffolding up to 6m under the direct supervision of a qualified and competent person	WA0201 Secure work area	**E1**
		WA0202 Assess ground conditions for construction work	
		WA0203 Identify risks and hazards within the work area	
		WA0204 Select PPE and other safety equipment	
		WA0205 Select and use tools, equipment and materials required for scaffold erection	
		WA0206 Erect and dismantle access scaffold as per procedures	
		WA0207 Perform housekeeping and clear site	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0208 Perform all work safely	
	WM-02-WE03: Erect and dismantle access scaffolding up to 6m independently but subject to quality check of a qualified and competent person	WA0301 Secure work area	**E1**
		WA0302 Assess ground conditions for construction work	
		WA0303 Identify risks and hazards within the work area	
		WA0304 Select PPE and other safety equipment	
		WA0305 Select and use tools, equipment and materials required for scaffold erection	
		WA0306 Erect and dismantle access scaffold as per procedures	
		WA0307 Perform housekeeping and clear site	
		WA0308 Perform all work safely	
651501000-WM-03, Processes to supervise scaffolding operations up to 6m, NQF Level 3, Credits 12	**WM-03-WE01: Observe and assist a qualified and competent person to supervise scaffolding operations up to 6m**	WA0101 Plan and prepare for supervising the erection of access scaffolding together with a team, compile an action plan and prioritise activities for erecting access platforms	**E2**
		WA0102 Interpret drawings, requirements, specifications, details and dimensions for erecting access scaffolding, together with a team	
		WA0103 Identify risks and hazards for erecting access scaffolding and mitigate them	
		WA0104 Select and use tools and equipment, PPE and other safety equipment	
		WA0105 Coordinate a range of activities to ensure availability of human and material resources	
		WA0106 Supervise the erecting of access scaffolding up to 6m and control work activities	
		WA0107 Inspect access scaffolding works for compliance with drawings and/or requirements, rectify and re-inspect	
		WA0108 Complete Access Scaffolding Register and inspection checklist	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0109 Use appropriate tools and equipment to perform activities	
		WA0110 Plan and prepare for dismantling access scaffolding and compile action plan	
		WA0111 Supervise the dismantling of access scaffolding as per company procedures	
		WA0112 Use appropriate tools and equipment to perform activities	
		WA0113 Adhere to site procedures for the clearance of materials, equipment and team	
		WA0114 Perform all work safely	
	WM-03-WE02: Supervise scaffolding operations up to 6m under the direct supervision of a qualified and competent person	WA0201 Plan and prepare for supervising the erection of access scaffolding, together with a team, compile an action plan and prioritise activities for erecting access platforms	**E2**
		WA0202 Interpret drawings, requirements, specifications, details and dimensions for erecting access scaffolding, together with a team	
		WA0203 Identify risks and hazards for erecting access scaffolding and mitigate them	
		WA0204 Select and use tools and equipment, PPE and other safety equipment	
		WA0205 Coordinate a range of activities to ensure availability of human and material resources	
		WA0206 Supervise the erecting of access scaffolding up to 6m and control work activities	
		WA0207 Inspect access scaffolding works for compliance with drawings and/or requirements, rectify and re-inspect	
		WA0208 Complete Access Scaffolding Register and inspection checklist	
		WA0209 Use appropriate tools and equipment to perform activities	
		WA0210 Plan and prepare for dismantling access scaffolding and compile action plan	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0211 Supervise the dismantling of access scaffolding as per company procedures	
		WA0212 Use appropriate tools and equipment to perform activities	
		WA0213 Adhere to site procedures for the clearance of materials, equipment and team	
		WA0214 Perform all work safely	
	WM-03-WE03: Supervise scaffolding operations up to 6m independently but subject to quality checks by a qualified and competent person	WA0301 Plan and prepare for supervising the erection of access scaffolding, together with a team, compile an action plan and prioritise activities for erecting access platforms	**E2**
		WA0302 Interpret drawings, requirements, specifications, details and dimensions for erecting access scaffolding, together with a team	
		WA0303 Identify risks and hazards for erecting access scaffolding and mitigate them	
		WA0304 Select and use tools and equipment, PPE and other safety equipment	
		WA0305 Coordinate a range of activities to ensure availability of human and material resources	
		WA0306 Supervise the erecting of access scaffolding up to 6m and control work activities	
		WA0307 Inspect access scaffolding works for compliance with drawings and/or requirements, rectify and re-inspect	
		WA0308 Complete Access Scaffolding Register and inspection checklist	
		WA0309 Use appropriate tools and equipment to perform activities	
		WA0310 Plan and prepare for dismantling access scaffolding and compile action plan	
		WA0311 Supervise the dismantling of access scaffolding as per company procedures	
		WA0312 Use appropriate tools and equipment to perform activities	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0313 Adhere to site procedures for the clearance of materials, equipment and team	
		WA0314 Perform all work safely	
651501000-WM-04, Processes to sling, lift and secure loads using basic lifting techniques, and to work with fibre and steel ropes, NQF Level 2, Credits 40	**WM-04-WE01: Observe and assist a qualified and competent rigger to sling regular loads**	WA0101 Review the activities in this module with supervisor (rigger)	**I1**
		WA0103 Study the WA0102 Read the work instructions or job card drawings, where	
		WA0104 Calculate load weight	
		WA0105 Plan and prepare for slinging by barricading area of operation, organising and assembling resources for the task, evaluating environmental conditions and preparing worksite	
		WA0106 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0107 Sling a regular load up to 3 tons with lifting lugs	
		WA0108 Sling a regular load up to 3 tons without lifting lugs	
		WA0109 Conduct housekeeping activities	
		WA0110 Conduct all tasks safely	
	WM-04-WE02: Sling regular loads under the supervision of a qualified and competent rigger	WA0201 Read the work instructions or job card	**I1**
		WA0202 Study the drawings	
		WA0203 Plan and prepare for slinging by barricading area of operation, organising and assembling resources for the task, evaluating environmental conditions and preparing worksite	
		WA0204 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0205 Sling a regular load up to 3 tons with lifting lugs	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0206 Sling a regular load up to 3 tons without lifting lugs	
		WA0207 Conduct housekeeping activities	
		WA0208 Conduct all tasks safely	
	WM-04-WE03: Sling regular loads independently, but subject to quality checks by a qualified and competent rigger	WA0301 Read the work instructions or job card	**I4**
		WA0302 Study the drawings	
		WA0303 Plan and prepare for slinging by barricading area of operation, organising and assembling resources for the task, evaluating environmental conditions and preparing worksite	
		WA0304 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0305 Sling a regular load up to 3 tons with lifting lugs	
		WA0306 Sling a regular load up to 3 tons without lifting lugs	
		WA0307 Conduct housekeeping activities	
		WA0308 Conduct all tasks safely	
	WM-04-WE04: Observe and assist a qualified and competent rigger to lift loads using different lifting techniques and to lift	WA0401 Read the work instructions or job cards for the various lifting activities listed below	**I5**
		WA0402 Determine the load weight	
		WA0403 Study the drawings, where relevant, for each different lifting activity	
		WA0404 Identify and mitigate hazards and risks for each different lifting activity	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	and secure loads for transportation	WA0405 Plan and prepare for lifting loads by barricading area of operation, organising and assembling resources for the task, evaluating environmental conditions and preparing worksite	
		WA0406 Work in a team to perform all lifting tasks	
		WA0407 Lift and move different loads using 3 different types of manual lifting equipment and	
		WA0408 Shift different loads of not more than 3 tons on an inclination using lifting equipment	
		WA0409 Place and move different loads using rollers or sliders	
		WA0410 Lift and secure loads for transportation	
		WA0411 Conduct all tasks safely	
	WM-04-WE05: Lift loads using different lifting techniques and lift and secure loads for transportation under the supervision of a qualified and competent rigger	WA0501 Read the work instructions or job cards for the various lifting activities listed below	**I5**
		WA0502 Determine the load weight	
		WA0503 Study the drawings, where relevant, for each different lifting activity	
		WA0504 Identify and mitigate hazards and risks for each different lifting activity	
		WA0505 Plan and prepare for lifting loads by barricading area of operation, organising and assembling resources for the task, evaluating environmental conditions and preparing worksite	
		WA0506 Work in a team to perform all lifting tasks	
		WA0507 Lift and move different loads using 3 different types of manual lifting equipment and tackle	
		WA0508 Shift different loads of not more than 3 tons on an inclination using lifting equipment	
		WA0509 Place and move different loads using rollers or sliders	
		WA0510 Lift and secure loads for transportation	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0511 Conduct all tasks safely	
	WM-04-WE06: Lift loads using different lifting techniques and lift and secure loads for transportation independently, but subject to quality checks by a qualified and competent rigger	WA0601 Read the work instructions or job cards for the various lifting activities listed below	**I5**
		WA0602 Determine the load weight	
		WA0603 Study the drawings, where relevant, for each different lifting activity	
		WA0604 Identify and mitigate hazards and risks for each different lifting activity	
		WA0605 Plan and prepare for lifting loads by barricading area of operation, organising and assembling resources for the task, evaluating environmental conditions and preparing worksite	
		WA0606 Work in a team to perform all lifting tasks	
		WA0607 Lift and move different loads using 3 different types of manual lifting equipment and tackle	
		WA0608 Shift different loads of not more than 3 tons on an inclination using lifting equipment	
		WA0609 Place and move different loads using rollers or sliders	
		WA0610 Lift and secure loads for transportation at least three time	
		WA0611 Conduct all tasks safely	
	WM-04-WE07: Observe and assist a qualified and competent rigger work with fibre and steel ropes	WA0701 Identify the various types of fibre and steel wire ropes	**F1, G1**
		WA0702 Measure the diameter, calculate the circumference and lay of manila	**F1, G2**
		WA0703 Measure the diameter, calculate the circumference and lay of steel wire ropes	**G2**
		WA0704 Calculate bending radius of steel wire ropes	**G2**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0705 Coil and uncoil fibre ropes without damage	**F1**
		WA0706 Coil and uncoil steel wire ropes without kinks or damage	**G1**
		WA0707 Tie knots, bends, hitches, lashings on ropes for each aspect	**F2, G2**
		WA0708 Attach permanent finishes to rope ends	**F1, F2**
		WA0709 Inspect ropes for damages/problems	**F1, F2, G2**
		WA0710 Make-up twine	**F1, F2**
		WA0711 Whip fibre ropes using different whipping techniques	**F1, F2**
		WA0712 Seize fibre ropes larger than and less than 25mm	**F1, F2**
		WA0713 Reeve a rope on a block and tackle	**F4**
		WA0714 Lubricate steel wire ropes	**G3**
		WA0715 Connect end fittings	**G5**
		WA0716 Make a steel rope specimen for destructive testing purposes	**G4**
	WM-04-WE08: Work with fibre and steel ropes under the supervision of a qualified and competent rigger	WA0801 Identify the various types of fibre and steel wire ropes	**F1, F2**
		WA0802 Measure the diameter, calculate the circumference and lay of manila	**F1**
		WA0803 Measure the diameter, calculate the circumference and lay of steel wire ropes	**G1**
		WA0804 Calculate bending radius of steel wire ropes	**G1**
		WA0805 Coil and uncoil fibre ropes without damage	**F1, F2**
		WA0806 Coil and uncoil steel wire ropes without kinks or damage	**G1**
		WA0807 Tie knots, bends, hitches, lashings on ropes for each aspect	**F2, G2**
		WA0808 Attach permanent finishes to rope ends	**F1,F2**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0809 Inspect ropes for damages/problems	**F1, F2**
		WA0810 Make-up twine	**F1,F2**
		WA0811 Whip fibre ropes using different whipping techniques	**F1,F2**
		WA0812 Seize fibre ropes larger than and less than 25mm	**F1,F2**
		WA0813 Reeve a rope on a block and tackle	**F4**
		WA0814 Lubricate steel wire ropes	**G3**
		WA0815 Connect end fittings	**G5**
		WA0816 Make a steel rope specimen for destructive testing purposes	**G4**
	WM-04-WE09: Work with fibre and steel wire ropes independently, but subject to quality checks by a qualified and competent rigger	WA0901 Identify the various types of fibre and steel wire ropes	**F1, G1**
		WA0902 Measure the diameter, calculate the circumference and lay of manila	**F1**
		WA0903 Measure the diameter, calculate the circumference and lay of steel wire ropes at least three times	**G1**
		WA0904 Calculate bending radius of steel wire ropes	**G1**
		WA0905 Coil and uncoil fibre ropes without damage	**F1, F2**
		WA0906 Coil and uncoil steel wire ropes without kinks or damage	**G1**
		WA0907 Tie knots, bends, hitches, lashings on ropes for each aspect	**F2**
		WA0908 Attach permanent finishes to rope ends	**F1,F2**
		WA0909 Inspect ropes for damages/problems	**F1,F2**
		WA0910 Make-up twine	**F1,F2**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0911 Whip fibre ropes using different whipping techniques	**F1,F2**
		WA0912 Seize fibre ropes larger than and less than 25mm	**F1,F2**
		WA0913 Reeve a rope on a block and tackle	**F4**
		WA0914 Lubricate steel wire ropes	**G3**
		WA0915 Connect end fittings	**G5**
		WA0916 Make a steel rope specimen for destructive testing purposes	**G4**
651501000-WM-05, Processes to sling, lift and secure loads using basic lifting	**WM-05-WE01: Observe and assist a qualified and competent rigger to sling regular loads**	WA0101 Review the activities in this module with supervisor (rigger)	**I1**
		WA0102 Read the work instructions or job card	
		WA0103 Study the drawings	
		WA0104 Perform all preparatory activities prior to slinging	
		WA0105 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0106 Sling a regular load up to 3 tons with lifting lugs	
		WA0107 Sling a regular load up to 3 tons without lifting lugs	
		WA0108 Conduct housekeeping activities	
		WA0109 Conduct all tasks safely	
	WM-05-WE02: Sling regular loads under the supervision of a	WA0201 Read the work instructions or job card	**I1**
		WA0202 Study the drawings	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	qualified and competent rigger	WA0203 Perform all preparatory activities prior to slinging	
		WA0204 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0205 Sling a regular load up to 3 tons with lifting lugs	
		WA0206 Sling a regular load up to 3 tons without lifting lugs	
		WA0207 Conduct housekeeping activities	
		WA0208 Conduct all tasks safely	
	WM-05-WE03: Sling regular loads independently, but subject to quality checks by a qualified and competent rigger	WA0301 Read the work instructions or job card	**I1**
		WA0302 Study the drawings	
		WA0303 Perform all preparatory activities prior to slinging	
		WA0304 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0305 Sling a regular load up to 3 tons with lifting lugs	
		WA0306 Sling a regular load up to 3 tons without lifting lugs	
		WA0307 Conduct housekeeping activities	
		WA0308 Conduct all tasks safely	
	WM-05-WE04: Observe and assist a qualified and competent rigger to lift loads using different lifting	WA0401 Read the work instructions or job cards for the various lifting activities listed below	**I5**
		WA0402 Determine the load weight	
		WA0403 Study the drawings, where relevant, for each different lifting activity	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	techniques and to lift and secure loads for transportation	WA0404 Identify and mitigate hazards and risks for each different lifting activity	
		WA0405 Organise and assemble resources for the various different lifting tasks	
		WA0406 Work in a team to perform all lifting tasks	
		WA0407 Lift and move different loads using 3 different types of manual lifting equipment and tackle	
		WA0408 Shift different loads of not more than 3 tons on an inclination using lifting equipment	
		WA0409 Place and move different loads using rollers or sliders	
		WA0410 Lift and secure loads for transportation at least three time	
		WA0411 Direct crane operations	**I4**
		WA0412 Conduct all tasks safely	**I5**
	WM-05-WE05: Lift loads using different lifting techniques and lift and secure loads for transportation under the supervision of a qualified and competent rigger	WA0501 Read the work instructions or job cards for the various lifting activities listed below	**I5**
		WA0502 Determine the load weight	
		WA0503 Study the drawings, where relevant, for each different lifting activity	
		WA0504 Identify and mitigate hazards and risks for each different lifting activity	
		WA0505 Organise and assemble resources for the various different lifting tasks	
		WA0506 Work in a team to perform all lifting tasks	
		WA0507 Lift and move different loads using 3 different types of manual lifting equipment and tackle	
		WA0508 Shift different loads of not more than 3 tons on an inclination using lifting equipment	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0509 Place and move different loads using rollers or sliders	
		WA0510 Lift and secure loads for transportation at least three time	
		WA0511 Direct crane operations	**I4**
		WA0512 Conduct all tasks safely	**I5**
	WM-05-WE06: Lift loads using different lifting techniques and lift and secure loads for transportation independently, but subject to quality checks by a qualified and competent rigger	WA0601 Read the work instructions or job cards for the various lifting activities listed below	**I5**
		WA0602 Determine the load weight	
		WA0603 Study the drawings, where relevant, for each different lifting activity	
		WA0604 Identify and mitigate hazards and risks for each different lifting activity	
		WA0605 Organise and assemble resources for the various different lifting tasks	
		WA0606 Work in a team to perform all lifting tasks	
		WA0607 Lift and move different loads using 3 different types of manual lifting equipment and tackle	
		WA0608 Shift different loads of not more than 3 tons on an inclination using lifting equipment	
		WA0609 Place and move different loads using rollers or sliders	
		WA0610 Lift and secure loads for transportation at least three time	
		WA0611 Direct crane operations	**I4**
		WA0612 Conduct all tasks safely	**I5**
		WA0701 Identify the various types of fibre and steel wire ropes	**F1,G2**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	WM-05-WE07: Observe and assist a qualified and competent rigger work with fibre and steel ropes	WA0702 Measure the diameter, calculate the circumference and lay of manila	**F1**
		WA0703 Measure the diameter, calculate the circumference and lay of steel wire ropes at least three times	**G2**
		WA0704 Calculate bending radius of steel wire ropes	**F1**
		WA0705 Coil and uncoil fibre ropes without damage	**G2**
		WA0706 Coil and uncoil steel wire ropes without kinks or damage	**F2**
		WA0707 Tie knots, bends, hitches, lashings on ropes for each aspect	**F1**
		WA0708 Attach permanent finishes to rope ends	**F1**
		WA0709 Inspect ropes for damages/problems	**F1**
		WA0710 Make-up twine	**F1**
		WA0711 Whip fibre ropes using different whipping techniques	**F1**
		WA0712 Seize fibre ropes larger than and less than 25mm	**F1**
		WA0713 Reeve a rope on a block and tackle	**F4**
		WA0714 Lubricate steel wire ropes	**G3**
		WA0715 Connect end fittings	**G5**
		WA0716 Make a steel rope specimen for destructive testing purposes	**G4**
	WM-05-WE08: Work with fibre and steel ropes under the	WA0801 Identify the various types of fibre and steel wire ropes	**F1**
		WA0802 Measure the diameter, calculate the circumference and lay of manila	**F1**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	supervision of a qualified and competent rigger	WA0803 Measure the diameter, calculate the circumference and lay of steel wire ropes at least three times	**G1**
		WA0804 Calculate bending radius of steel wire ropes	**G1**
		WA0805 Coil and uncoil fibre ropes without damage	**F1**
		WA0806 Coil and uncoil steel wire ropes without kinks or damage	**G1**
		WA0807 Tie knots, bends, hitches, lashings on ropes for each aspect	**F1**
		WA0808 Attach permanent finishes to rope ends	**F1**
		WA0809 Inspect ropes for damages/problems	**F1**
		WA0810 Make-up twine	**F1**
		WA0811 Whip fibre ropes using different whipping techniques	**F1**
		WA0812 Seize fibre ropes larger than and less than 25mm	**F1**
		WA0813 Reeve a rope on a block and tackle	**F4**
		WA0814 Lubricate steel wire ropes	**G3**
		WA0815 Connect end fittings	**G5**
	WM-05-WE09: Work with fibre and steel wire ropes independently, but subject to quality checks by a qualified	WA0901 Identify the various types of fibre and steel wire ropes	**F1**
		WA0902 Measure the diameter, calculate the circumference and lay of manila	**F1**
		WA0903 Measure the diameter, calculate the circumference and lay of steel wire ropes at least three times	**G1**
		WA0904 Calculate bending radius of steel wire ropes	**G1**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	and competent rigger	WA0905 Coil and uncoil fibre ropes without damage	**F1**
		WA0906 Coil and uncoil steel wire ropes without kinks or damage	**G1**
		WA0907 Tie knots, bends, hitches, lashings on ropes for each aspect	**F2**
		WA0908 Attach permanent finishes to rope ends	**F1**
		WA0909 Inspect ropes for damages/problems	**F1**
		WA0910 Make-up twine	**F1**
		WA0911 Whip fibre ropes using different whipping techniques	**F1**
		WA0912 Seize fibre ropes larger than and less than 25mm	**F1**
		WA0913 Reeve a rope on a block and tackle	**F4**
		WA0914 Lubricate steel wire ropes	**G3**
		WA0915 Connect end fittings	**G5**
		WA0916 Make a steel rope specimen for destructive testing purposes	**G4**
	WM-05-WE10: Observe and assist a qualified and competent rigger make a steel rope specimen and splice fibre ropes	WA1001 Make a steel rope specimen for destructive testing purposes	**G4**
		WA1002 Prepare to splice ropes	**F3**
		WA1003 Splice a manila grommet	**F3**
		WA1004 Splice a soft eye in a manila rope	**F3**
		WA1005 Perform a short splice in a manila rope	**F3**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA1006 Splice a long splice in a manila rope	**F3**
		WA1007 Splice a thimble in a manila rope	**F3**
		WA1008 Dress the splices	**F3**
	WM-05-WE11: Make a steel rope specimen and splice fibre ropes under the supervision of a qualified and competent rigger	WA1101 Make a steel rope specimen for destructive testing purposes	**G4**
		WA1102 Prepare to splice ropes	**F3**
		WA1103 Splice a manila grommet	**F3**
		WA1104 Splice a soft eye in a manila rope	**F3**
		WA1105 Perform a short splice in a manila rope	**F3**
		WA1106 Splice a long splice in a manila rope	**F3**
		WA1107 Splice a thimble in a manila rope	**F3**
		WA1108 Dress the splices	**F3**
	WM-05-WE12: Make a steel rope specimen and splice fibre ropes independently, but subject to quality checks by a qualified and competent rigger	WA1201 Make a steel rope specimen for destructive testing purposes	**G4**
		WA1203 Splice a manila grommet	**F3**
		WA1204 Splice a soft eye in a manila rope	**F3**
		WA1205 Perform a short splice in a manila rope	**F3**
		WA1206 Splice a long splice in a manila rope	**F3**
		WA1207 Splice a thimble in a manila rope	**F3**
		WA1208 Dress the splices	**F3**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
651501000-WM-06, Processes to lift loads using intermediate lifting techniques, and work with steel wire ropes, NQF Level 3, Credits 68	**WM-06-WE01: Observe and assist a qualified and competent rigger to sling complex loads**	WA0101 Review the activities in this module with supervisor (rigger)	**I2**
		WA0102 Read the work instructions or job card	
		WA0103 Study the drawings	
		WA0104 Perform all preparatory activities prior to slinging complex loads	
		WA0105 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0106 Sling a complex load up to 3 tons with lifting lugs	
		WA0107 Sling a complex load up to 3 tons without lifting lugs	
		WA0108 Conduct housekeeping activities	
		WA0109 Conduct all tasks safely	
	WM-06-WE02: Sling complex loads, under the direct guidance and supervision of a qualified and competent rigger	WA0201 Read the work instructions or job card	**I2**
		WA0202 Study the drawings	
		WA0203 Perform all preparatory activities prior to slinging complex loads	
		WA0204 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0205 Sling a complex load up to 3 tons with lifting lugs	
		WA0206 Sling a complex load up to 3 tons without lifting lugs	
		WA0207 Conduct housekeeping activities	
		WA0208 Conduct all tasks safely	
		WA0301 Read the work instructions or job card	**I2**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	WM-06-WE03: Sling complex loads independently, but subject to quality checks by a qualified and competent rigger	WA0302 Study the drawings	
		WA0303 Perform all preparatory activities prior to slinging complex loads	
		WA0304 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0305 Sling a complex load up to 3 tons with lifting lugs	
		WA0306 Sling a complex load up to 3 tons without lifting lugs	
		WA0307 Conduct housekeeping activities	
		WA0308 Conduct all tasks safely	
	WM-06-WE04: Observe and assist a qualified and competent rigger to lift loads using intermediate lifting techniques	WA0401 Read the work instructions or job cards for the various lifting activities listed below	**I3**
		WA0402 Determine the load weight for each different lifting activity	
		WA0403 Study the drawings, where relevant, for each different lifting activity	
		WA0404 Perform risk assessment for every lifting activity (identify and mitigate hazards)	
		WA0405 Organise and assemble resources for the various different lifting tasks	
		WA0406 Work in a team to perform all lifting tasks	
		WA0407 Identify and inspect rigging equipment as per log book inspection requirements	
		WA0408 Lift, move and manoeuvre different loads using mechanical lifting equipment	**I7**
		WA0409 Lift different loads using the floating method	
		WA0410 Lift and turn different loads	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0411 Lift different loads of using the pick and carry method	
		WA0412 Re-rail rail-bound equipment	**I3**
		WA0413 Direct lifting operations	**I4**
		WA0414 Conduct all tasks safely	**I3**
	WM-06-WE05: Lift loads using intermediate lifting techniques under the direct guidance and supervision of a qualified and competent rigger	WA0501 Read the work instructions or job cards for the various lifting activities listed below	**i3**
		WA0502 Determine the load weight for each different lifting activity	
		WA0503 Study the drawings, where relevant, for each different lifting activity	
		WA0504 Perform risk assessment for every lifting activity (identify and mitigate hazards)	
		WA0505 Organise and assemble resources for the various different lifting tasks	
		WA0506 Work in a team to perform all lifting tasks	
		WA0507 Identify and inspect rigging equipment as per log book inspection requirements	
		WA0508 Lift, move and manoeuvre different loads using mechanical lifting equipment	**I7**
		WA0509 Lift different loads using the floating method	
		WA0510 Lift and turn different loads	
		WA0511 Lift different loads of using the pick and carry method	
		WA0512 Re-rail rail-bound equipment	**I3**
		WA0513 Direct lifting operations	**I4**
		WA0514 Conduct all tasks safely	**I3**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	WM-06-WE06: Lift loads using intermediate lifting techniques independently, but subject to quality checks by a qualified and competent rigger	WA0601 Read the work instructions or job cards for the various lifting activities listed below	**I3**
		WA0602 Determine the load weight for each different lifting activity	
		WA0603 Study the drawings, where relevant, for each different lifting activity	
		WA0604 Perform risk assessment for every lifting activity (identify and mitigate hazards)	
		WA0605 Organise and assemble resources for the various different lifting tasks	
		WA0606 Work in a team to perform all lifting tasks	
		WA0607 Identify and inspect rigging equipment as per log book inspection requirements	
		WA0608 Lift, move and manoeuvre different loads using mechanical lifting equipment	**I7**
		WA0609 Lift different loads using the floating method	
		WA0610 Lift and turn different loads	
		WA0611 Lift different loads of using the pick and carry method	
		WA0612 Re-rail rail-bound equipment	**I3**
		WA0613 Direct lifting operations	**I4**
		WA0614 Conduct all tasks safely	**13**
	WM-06-WE07: Observe and assist a qualified and competent rigger	WA0701 Identify classification and configurations of steel wire ropes	**H1**
		WA0702 Inspect steel wire ropes for serviceability	**H1**
		WA0703 Assist with electronic-magnetic testing of steel wire ropes	**H1**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	work with steel wire ropes	WA0704 Worm, parcel and serve a steel wire rope	**G1**
		WA0705 Terminate a steel wire rope by means of capping	**H2**
	WM-06-WE08: Work with steel wire ropes under the supervision of a qualified and competent rigger	WA0801 Identify classification and configurations of steel wire ropes	**H1**
		WA0802 Inspect steel wire ropes for serviceability	**H1**
		WA0803 Assist with electronic-magnetic testing of steel wire ropes	**H1**
		WA0804 Worm, parcel and serve a steel wire rope	**G1**
		WA0805 Terminate a steel wire rope by means of capping	**H2**
	WM-06-WE09: Work with steel wire ropes independently, but subject to quality checks by a qualified and competent rigger	WA0901 Identify classification and configurations of steel wire ropes	**H1**
		WA0902 Inspect steel wire ropes for serviceability	**H1**
		WA0903 Assist with electronic-magnetic testing of steel wire ropes	**H1**
		WA0904 Worm, parcel and serve a steel wire rope	**G1**
		WA0905 Terminate a steel wire rope by means of capping	**H2**
651501000-WM-07, Processes to lift loads using intermediate lifting techniques, and work	**WM-07-WE01: Observe and assist a qualified and competent rigger to sling complex loads**	WA0101 Review the activities in this module with supervisor (rigger)	**I2**
		WA0102 Read the work instructions or job card	
		WA0103 Study the drawings	
		WA0104 Perform all preparatory activities prior to slinging complex loads	
		WA0105 Identify and inspect slinging equipment as per log book inspection requirements	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
with steel wire ropes (mining sector), NQF Level 3, Credits 68		WA0106 Sling a complex load up to 3 tons with lifting lugs	
		WA0107 Sling a complex load up to 3 tons without lifting lugs	
		WA0108 Conduct housekeeping activities	
		WA0109 Conduct all tasks safely	
	WM-07-WE02: Sling complex loads, under the direct guidance and supervision of a qualified and competent rigger	WA0201 Read the work instructions or job card	**I2**
		WA0202 Study the drawings	
		WA0203 Perform all preparatory activities prior to slinging complex loads	
		WA0204 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0205 Sling a complex load up to 3 tons with lifting lugs	
		WA0206 Sling a complex load up to 3 tons without lifting lugs	
		WA0207 Conduct housekeeping activities	
		WA0208 Conduct all tasks safely	
	WM-07-WE03: Sling complex loads independently, but subject to quality checks by a qualified and competent rigger	WA0301 Read the work instructions or job card	**I2**
		WA0302 Study the drawings	
		WA0303 Perform all preparatory activities prior to slinging complex loads	
		WA0304 Identify and inspect slinging equipment as per log book inspection requirements	
		WA0305 Sling a complex load up to 3 tons with lifting lugs	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0306 Sling a complex load up to 3 tons without lifting lugs	
		WA0307 Conduct housekeeping activities	
		WA0308 Conduct all tasks safely	
	WM-07-WE04 Observe and assist a qualified and competent rigger to lift loads using intermediate lifting techniques	WA0401 Read the work instructions or job cards for the various lifting activities listed below	**I3**
		WA0403 Study the drawings, where relevant, for each different lifting activity	
		WA0404 Perform risk assessment for every lifting activity (identify and mitigate hazards)	
		WA0405 Organise and assemble resources for the various different lifting tasks	
		WA0406 Work in a team to perform all lifting tasks	
		WA0407 Identify and inspect rigging equipment as per log book inspection requirements	
		WA0408 Lift, move and manoeuvre different loads using mechanical lifting equipment	**I7**
		WA0409 Lift different loads using the floating method	
		WA0410 Lift and turn different loads	
		WA0411 Lift different loads of using the pick and carry method	
		WA0412 Re-rail a conveyance	**I3**
		WA0413 Direct lifting operations	**I4**
		WA0414 Conduct all tasks safely	**I3**
	WM-07-WE05: Lift loads using intermediate lifting	WA0501 Read the work instructions or job cards for the various lifting activities listed below	**I3**
		WA0502 Determine the load weight for each different lifting activity	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	techniques under the supervision of a qualified and competent rigger	WA0503 Study the drawings, where relevant, for each different lifting activity	
		WA0504 Perform risk assessment for every lifting activity (identify and mitigate hazards)	
		WA0505 Organise and assemble resources for the various different lifting tasks	
		WA0506 Work in a team to perform all lifting tasks	
		WA0507 Identify and inspect rigging equipment as per log book inspection requirements	
		WA0508 Lift, move and manoeuvre different loads using mechanical lifting equipment	**I7**
		WA0509 Lift different loads using the floating method	
		WA0510 Lift and turn different loads	
		WA0511 Lift different loads of using the pick and carry method	
		WA0512 Re-rail a conveyance	**I3**
		WA0513 Direct lifting operations	**I4**
		WA0514 Conduct all tasks safe	**I3**
	WM-07-WE06: Lift loads using intermediate lifting techniques independently, but subject to quality checks by a qualified and competent rigger	WA0601 Read the work instructions or job cards for the various lifting activities listed below	**I3**
		WA0602 Determine the load weight for each different lifting activity	
		WA0603 Study the drawings, where relevant, for each different lifting activity	
		WA0604 Perform risk assessment for every lifting activity (identify and mitigate hazards)	
		WA0605 Organise and assemble resources for the various different lifting tasks	
		WA0606 Work in a team to perform all lifting tasks	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0607 Identify and inspect rigging equipment as per log book inspection requirements	
		WA0608 Lift, move and manoeuvre different loads using mechanical lifting equipment	**I7**
		WA0609 Lift different loads using the floating method	
		WA0610 Lift and turn different loads	
		WA0611 Lift different loads of using the pick and carry method	
		WA0612 Re-rail a conveyance	**I3**
		WA0613 Direct lifting operations	**I4**
		WA0614 Conduct all tasks safely	**I3**
	WM-07-WE07: Observe and assist a qualified and competent rigger work with steel wire ropes	WA0701 Inspect steel wire ropes for serviceability	**G2**
		WA0702 Use testing methods on steel wire ropes three times	
		WA0703 Plan and prepare for splicing activities on steel wire ropes	
		WA0704 Splice a non-spin wire rope	
		WA0705 Splice a soft eye in a steel wire rope using the admiralty method	
		WA0706 Use two methods to make a long splice in two steel ropes	
		WA0707 Splice a steel wire rope using the Liverpool method	
		WA0708 Splice a thimble into a wire rope	
		WA0709 Splice a grommet	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0710 Splice Flemish eye splice	
		WA0711 Splice a cut-splice	
		WA0712 Use ferrules and crimp	
		WA0713 Use other splices (clamping types (U-type and double-bolt type); wedges and sockets)	
		WA0714 Dress the splices	
		WA0715 Worm, parcel and serve a steel wire rope	
		WA0716 Terminate a steel wire rope by means of capping	
	WM-07-WE08: Work with steel wire ropes under the supervision of a qualified and competent rigger	WA0801 Inspect steel wire ropes for serviceability	**G2**
		WA0802 Use testing methods on steel wire ropes three times	
		WA0803 Plan and prepare for splicing activities on steel wire ropes	
		WA0804 Splice a non-spin wire rope	
		WA0805 Splice a soft eye in a steel wire rope using the admiralty method	
		WA0806 Use two methods to make a long splice in two steel ropes	
		WA0807 Splice a steel wire rope using the Liverpool method	
		WA0808 Splice a thimble into a wire rope	
		WA0809 Splice a grommet	
		WA0810 Splice Flemish eye splice	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0811 Splice a cut-splice	
		WA0812 Use ferrules and crimp	
		WA0813 Use other splices (clamping types (U-type and double-bolt type); wedges and sockets)	
		WA0814 Dress the splices	
		WA0815 Worm, parcel and serve a steel wire rope	
		WA0816 Terminate a steel wire rope by means of capping	
	WM-07-WE09: Work with steel wire ropes independently, but subject to quality checks by a qualified and competent rigger	WA0901 Inspect steel wire ropes for serviceability	**G2**
		WA0902 Use testing methods on steel wire ropes three times	
		WA0903 Plan and prepare for splicing activities on steel wire ropes	
		WA0904 Splice a non-spin wire rope	
		WA0905 Splice a soft eye in a steel wire rope using the admiralty method	
		WA0906 Use two methods to make a long splice in two steel ropes	
		WA0907 Splice a steel wire rope using the Liverpool method	
		WA0908 Splice a thimble into a wire rope	
		WA0909 Splice a grommet	
		WA0910 Splice Flemish eye splice	
		WA0911 Splice a cut-splice	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0912 Use ferrules and crimp	
		WA0913 Use other splices (clamping types (U-type and double-bolt type); wedges and sockets	
		WA0914 Dress the splices	
		WA0915 Worm, parcel and serve a steel wire rope	
		WA0916 Terminate a steel wire rope by means of capping	
651501000-WM-08, Processes to lift loads using advanced lifting techniques, NQF Level 4, Credits 84	**WM-08-WE01: Observe and assist a qualified and competent rigger to lift loads using advanced lifting techniques**	WA0101 Review the operations in this module with supervisor (rigger)	**I3**
		WA0102 Read the work instructions or job cards for the various lifting operations listed below	**I3**
		WA0103 Conduct a rigging study for each lifting operation	**I3,I6**
		WA0104 Study the drawings, where relevant, for each different lifting activity	**I3**
		WA0105 Identify and mitigate hazards and risks for each different lifting activity	**I3**
		WA0106 Organise and assemble resources for the various different lifting tasks	**I3**
		WA0107 Work in a team to perform all lifting tasks	**I3, I6**
		WA0108 Lift loads using the tandem lifting method	**I7**
		WA0109 Transfer loads between lifting equipment	**I7**
		WA0110 Move a complex load using a winch	**I7**
		WA0111 Direct advanced mobile crane operations	**I4**
		WA0112 Remove a tube bundle	**I6**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0113 Plan and perform maintenance within scope of a rigger	**I3**
		WA0114 Perform boom conversion	**I4**
		WA0115 Tail a load	**I7**
		WA0116 Conduct all tasks safely	**I3, I6, I7**
	WM-08-WE02: Lift loads using advanced lifting techniques, under the direct guidance and supervision of a qualified and competent rigger	WA0201 Read the work instructions or job cards for the various lifting operations listed below	**I3**
		WA0202 Conduct a rigging study for each lifting operation	**I3, I6**
		WA0203 Study the drawings, where relevant, for each different lifting activity	**I3**
		WA0204 Identify and mitigate hazards and risks for each different lifting activity	**I3**
		WA0205 Organise and assemble resources for the various different lifting tasks	**I3**
		WA0206 Work in a team to perform all lifting tasks	**I3, I6**
		WA0207 Lift loads using the tandem lifting method	**I7**
		WA0208 Transfer loads between lifting equipment	**I7**
		WA0209 Move a complex load using a winch	**I7**
		WA0210 Direct advanced mobile crane operations	**I4**
		WA0211 Remove a tube bundle	**I6**
		WA0212 Plan and perform maintenance within scope of a rigger	**I3**
		WA0213 Perform boom conversion	**I4**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0214 Tail a load	**I7**
		WA0215 Conduct all tasks safely	**I3,I6,I7**
	WM-08-WE03: Lift loads using advanced lifting techniques independently, but subject to quality checks by a qualified and competent rigger	WA0301 Read the work instructions or job cards for the various lifting operations listed below	**I3**
		WA0302 Conduct a rigging study for each lifting operation	**I3,I6**
		WA0303 Study the drawings, where relevant, for each different lifting activity	**I3**
		WA0304 Identify and mitigate hazards and risks for each different lifting activity	**I3**
		WA0305 Organise and assemble resources for the various different lifting tasks	**I3**
		WA0306 Work in a team to perform all lifting tasks	**I3,I6**
		WA0307 Lift loads using the tandem lifting method	**I7**
		WA0308 Transfer loads between lifting equipment	**I7**
		WA0309 Move a complex load using a winch	**I7**
		WA0310 Direct advanced mobile crane operations	**I4**
		WA0311 Remove a tube bundle	**I6**
		WA0312 Plan and perform maintenance within scope of a rigger	**I3**
		WA0313 Perform boom conversion	**I4**
		WA0314 Tail a load	**I7**
		WA0315 Conduct all tasks safely	**I3,I6,I7**
		WA0101 Review the operations in this module with supervisor (rigger)	**13**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
651501000-WM-09, Processes to lift loads using advanced lifting techniques, and to examine and replace a winder rope and sheave wheel (mining sector), NQF Level 4, Credits 84	**WM-09-WE01: Observe and assist a qualified and competent rigger to lift loads using advanced lifting techniques**	WA0102 Read the work instructions or job cards for the various lifting operations listed below	**I3**
		WA0103 Conduct a rigging study for each lifting operation	**I3,I6**
		WA0104 Study the drawings, where relevant, for each different lifting activity	**I3**
		WA0105 Identify and mitigate hazards and risks for each different lifting activity	**I3**
		WA0106 Organise and assemble resources for the various different lifting tasks	**I3**
		WA0107 Work in a team to perform all lifting tasks	**I3,I6**
		WA0108 Lift loads using the tandem lifting method	**I7**
		WA0109 Transfer loads between lifting equipment	**I7**
		WA0110 Move a complex load using a winch	**I7**
		WA0111 Direct advanced mobile crane operations	**I4**
		WA0112 Remove a tube bundle	**I6**
		WA0113 Plan and perform maintenance within scope of a rigger	**I3**
		WA0114 Perform boom conversion	**I4**
		WA0115 Tail a load	**I7**
		WA0116 Conduct all tasks safely	**I3,I6,I7**
	WM-09-WE02: Lift loads using advanced lifting	WA0201 Read the work instructions or job cards for the various lifting operations listed below	**I3**
		WA0202 Conduct a rigging study for each lifting operation	**I3,I6**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	techniques, under the direct guidance and supervision of a qualified and competent rigger	WA0203 Study the drawings, where relevant, for each different lifting activity	**I3**
		WA0204 Identify and mitigate hazards and risks for each different lifting activity	**I3**
		WA0205 Organise and assemble resources for the various different lifting tasks	**I3**
		WA0206 Work in a team to perform all lifting tasks	**I3,I6**
		WA0207 Lift loads using the tandem lifting method	**I7**
		WA0208 Transfer loads between lifting equipment	**I7**
		WA0209 Move a complex load using a winch	**I7**
		WA0210 Direct advanced mobile crane operations	**I4**
		WA0211 Remove a tube bundle	**I6**
		WA0212 Plan and perform maintenance within scope of a rigger	**I3**
		WA0213 Perform boom conversion	**I4**
		WA0214 Tail a load	**I7**
		WA0215 Conduct all tasks safely	**I3,I6,I7**
	WM-09-WE03: Lift loads using advanced lifting techniques independently, but subject to quality checks by a qualified	WA0301 Read the work instructions or job cards for the various lifting operations listed below	**I3**
		WA0302 Conduct a rigging study for each lifting operation	**I3,I6**
		WA0303 Study the drawings, where relevant, for each different lifting activity	**I3**
		WA0304 Identify and mitigate hazards and risks for each different lifting activity	**I3**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	and competent rigger	WA0305 Organise and assemble resources for the various different lifting tasks	**I3**
		WA0306 Work in a team to perform all lifting tasks	**I3,I6,I7**
		WA0307 Lift loads using the tandem lifting method	**I7**
		WA0308 Transfer loads between lifting equipment	**I7**
		WA0309 Move a complex load using a winch	**I7**
		WA0310 Direct advanced mobile crane operations	**I4**
		WA0311 Remove a tube bundle	**I6**
		WA0312 Plan and perform maintenance within scope of a rigger	**I3**
		WA0313 Perform boom conversion	**I4**
		WA0314 Tail a load	**I7**
		WA0315 Conduct all tasks safely	**I3,I6,I7**
	WM-09-WE04: Observe and assist a qualified and competent rigger to examine and replace a winder rope and sheave wheel	WA0401 Read the work instructions or job cards	**H1,H3**
		WA0402 Identify and mitigate hazards and risks for examining and replacing a winder	**H1,H3**
		WA0403 Prepare for and examine a winder rope	**H1**
		WA0404 Prepare winding engine on which winding rope was examined	**H1**
		WA0405 Communicate with winding engine driver	**H1**
		WA0406 Record examination date in logbook	**H1,H3**
		WA0407 Conduct all tasks safely	**H1,H3**

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
	WM-09-WE05: Examine and replace a winder rope and sheave wheel, under the supervision of a qualified and competent rigger	WA0501 Read the work instructions or job cards	**H1,H3**
		WA0502 Identify and mitigate hazards and risks for examining and replacing a winder	**H1,H3**
		WA0503 Prepare for and examine a winder rope	**H1**
		WA0504 Prepare winding engine on which winding rope was examined	**H1**
		WA0505 Communicate with winding engine driver	**H1**
		WA0506 Record examination date in logbook	**H1,H3**
		WA0507 Conduct all tasks safely	**H1,H3**
	WM-09-WE06: Examine and replace a winder rope and sheave wheel independently, but subject to quality checks by a qualified and competent rigger	WA0601 Read the work instructions or job cards	**H1,H3**
		WA0602 Identify and mitigate hazards and risks for replacing a winder rope and sheave examining and wheel	**H1,H3**
		WA0603 Prepare for and examine a winder rope	**H1**
		WA0604 Prepare winding engine on which winding rope was examined	**H1**
		WA0605 Communicate with winding engine driver	**H1**
		WA0606 Record examination date in logbook	**H1,H3**
		WA0607 Conduct all tasks safely	**H1,H3**
651501000-WM-10, Workplace fundamentals and health and safety processes, NQF Level 3, Credits 8	**WM-10-WE01: Participate in health and safety issues**	WA0101 Identify the nature of the injuries or medical emergency	**A4**
		WA0102 Perform basic first aid	
		WA0103 Report orally and in writing on the nature of the injury, the treatment and the condition of the injured person	
		WA0104 Identify various types of fire and assess its context	
		WA0105 Perform basic fire-fighting	

Module	Topic	Guideline for topic	NOCC A21 Learning area and work situation
		WA0106 Read and respond to safety signage	**A3**
		WA0107 Participate in worksite safety procedures	**A3**
	WM-10-WE02: Acquire workplace fundamentals	WA0201 Acquire knowledge of employer-employee relationships (contracts; vision, mission; policies and procedures; rules, codes of conduct and ethics; company values; labour relations processes including discipline, grievance, strikes, lock outs, negotiation, conciliation, mediation and arbitration)	**A4**
		WA0202 Acquire knowledge of concepts related to the performance of work (planning, organising and control; work flow; cost, waste; productivity, efficiency; housekeeping; quality and quality systems	
		WA0203 Acquire knowledge of employer organisations (differences between micro, small, medium and large organisations; organisational hierarchies; organisational culture, structures, systems; departments, services and inter-departmental relationships; organisational strategies, business plans and processes (budgeting, reporting); typical organisational stakeholders	
		WA0204 Acquire knowledge of external environments in which organisations operate (the economy, markets, customers, competition, service delivery; resources, including materials, people, finance, technology; legislation, regulations, standards, including SANS; organisations and the natural environment; global influences on local conditions, the economy	
		WA0205 Acquire knowledge of ethics at work; employment equity, Broad-Based Black Economic Empowerment; diversity)	